University of Alberta Library
0 1620 2665711 2

Ex libris
universitatis
albertaensis

Digitized by the Internet Archive
in 2026 with funding from
University of Alberta Library

https://archive.org/details/01620266571l2

THE UNIVERSITY OF ALBERTA

RELEASE FORM

NAME OF AUTHOR: CATHERINE L. KROWCHUK

TITLE OF THESIS: EVALUATION OF THE QUALITY OF THE SOCIAL ENVIRONMENT IN LONG TERM CARE INSTITUTIONS: AN APPLICATION OF THE MULTIPHASIC ENVIRONMENTAL ASSESSMENT PROCEDURE

DEGREE: MASTER OF HEALTH SERVICES ADMINISTRATION

YEAR THIS DEGREE GRANTED: SPRING, 1988

Permission is hereby granted to THE UNIVERSITY OF ALBERTA LIBRARY to reproduce single copies of this thesis and to lend or sell such copies for private, scholarly or scientific research purposes only.

The author reserves other publication rights, and neither the thesis nor extensive extracts from it may be printed or otherwise reproduced without the author's written permission.

(PERMANENT ADDRESS)

DATE: April 18..., 1988

THE UNIVERSITY OF ALBERTA

EVALUATION OF THE QUALITY OF THE SOCIAL ENVIRONMENT IN LONG TERM CARE INSTITUTIONS: AN APPLICATION OF THE MULTIPHASIC ENVIRONMENTAL ASSESSMENT PROCEDURE

by

CATHERINE L. KROWCHUK

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF HEALTH SERVICES ADMINISTRATION

DEPARTMENT OF HEALTH SERVICES ADMINISTRATION
AND COMMUNITY MEDICINE
EDMONTON, ALBERTA

SPRING 1988

08-21

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled EVALUATION OF THE QUALITY OF THE SOCIAL ENVIRONMENT IN LONG TERM CARE INSTITUTIONS: AN APPLICATION OF THE MULTIPHASIC ENVIRONMENTAL ASSESSMENT PROCEDURE submitted by Catherine L. Krowchuk in partial fulfillment of the requirements for the degree of MASTER OF HEALTH SERVICES ADMINISTRATION.

Date ...April 18, 1988.....

In memory of my grandparents:

Joshua and Helen Butterworth,

Peggy Krowchuk

ABSTRACT

In response to increasing pressure from governmental, accrediting and consumer bodies and demands for quality and holistic care in long term care institutions, administrators and planners are faced with establishing accountability for their programs. To resolve this problem, this study has been undertaken to establish and utilize an empirical methodology for the purpose of evaluating the quality of the social environment in long term care institutions in Alberta.

The research strategy taken in this study has been that of an exploratory, descriptive, cross-sectional, comparative survey entailing two study populations: the residents and staff members of an Edmonton, Alberta nursing home. The 63 item questionnaire utilized was the Sheltered Care Environment Scale (SCES), one of four scales comprising the Multiphasic Environmental Assessment Procedure (Moos and Lemke, 1984d).

The data analyses have included: 1) reliability testing; 2) validity assessment; 3) a comparative analysis of Edmonton data with U.S. data; and 4) descriptive analyses.

The major findings of this study may be summarized as follows:

1) The Edmonton data provides some evidence that the SCES is a reliable instrument.
2) It appears that the SCES has face validity and possibly construct validity, however, it has not been possible to replicate the underlying constructs using empirical means.
3) The Edmonton samples appear to be significantly different from the U.S. populations.
4) Some of the questions on the SCES questionnaire could have

elicited inaccurate responses and, thus, led to problems with the reliability and validity of the instrument.

5) Cross-tabulation and graphic results indicate that residents and staff tend to have opposite viewpoints, and the greatest variation is in their perceptions of the conflict, organization and resident influence dimensions of the social environment.

Based on these findings, it is concluded that: 1) the SCES instrument has some potential as an empirical methodology for evaluating the social environment in Alberta long term care institutions, however, the present nursing home study has not provided a definitive conclusion; 2) administrators and planners may find that using U.S. standardized scores for comparison is not an applicable method because the Alberta samples appear to be significantly different from the U.S. populations; and 3) the SCES has a potential for use in a practical and general way, and, in this specific example, it has identified several dimensions which could be investigated using additional methods.

Recommendations leading from these findings and conclusions are offered. One recommendation is that further research involving a larger sample of Canadian long term care institutions should be undertaken.

ACKNOWLEDGEMENTS

It is with sincere appreciation that I thank Dr. Kyung Bay, my supervisor, for assisting me in the completion of this thesis. I am grateful for his guidance, his interest in research in long term care, and his emphasis on academic excellence.

Sincere appreciation is also extended to Professor Lory Laing and Dr. Janet Kerr, thesis committee members, for their contributions to this thesis.

I would like to thank the Good Samaritan Society for releasing the data which have been utilized for this study.

Mr. George Hennig and Mr. Jack Lymer have made it possible for me to complete my thesis and I would like to acknowledge their contributions to my academic and professional growth.

A special thank you is expressed to Mary Kerber for her patience and expertise in typing and retyping this thesis.

I am indebted to all my friends for their ongoing encouragement, support and comraderie. The valuable constructive criticisms and editing by Anne Smithers have been greatly appreciated.

Lastly, my love and gratitude go to my parents, brother and sister who are always there when I need them, and to Carl Bathgate who is my constant source of inspiration.

TABLE OF CONTENTS

	Page
DEDICATION	iv
ABSTRACT	v
ACKNOWLEDGEMENTS	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
CHAPTER	
I. INTRODUCTION	1
1.1 Statement of the Problem	1
1.2 Objectives of the Study	2
1.3 Significance of the Study	3
1.4 Scope of the Study	5
1.5 Assumptions	5
1.6 Limitations	6
1.7 Definitions of Terms	7
1.8 Thesis Format	9
II. A SELECTIVE REVIEW OF THE LITERATURE	10
2.1 Program Evaluation	10
2.1.1 Rationale for Evaluation	10
2.1.2 Program Evaluation Definitions	12
2.1.3 Evaluation Models	14
2.1.4 Quality Evaluation Models	17
2.1.5 Process of Formal Evaluation	25
2.1.6 Evaluation Methodologies	26
2.1.7 Summary	29
2.1.8 Conclusion	30
2.2 Social Context of Long Term Care	30
2.2.1 Current Situation of Long Term Care in Canada	31
2.2.2 Changing Demographic Profile	36
2.2.3 Current Values of Long Term Care	40
2.2.4 Future Changes in Societal Values	43
2.2.5 Summary	45
2.2.6 Conclusion	47
2.3 Evaluation of the Social Environment	47
2.3.1 Evaluation Concepts	48
2.3.2 Social Environment in Long Term Care	54
2.3.3 The MEAP--An Evaluation Methodology	58
2.3.4 Summary	64
2.3.5 Conclusions	64

2.4 Literature Review Summary 65

III. RESEARCH METHODOLOGY 69

3.1 Research Strategy 69

3.2 Data Sources 70
3.2.1 Data Collection 72

3.3 Data Analysis Strategies 74
3.3.1 Reliability 74
3.3.2 Validity 75
3.3.3 Comparison with U.S. Normative Data 76
3.3.4 Descriptive Analyses 76

3.4 Summary of Research Methodology 76

IV. RESULTS AND DISCUSSION 78

4.1 Reliability Testing 78

4.2 Validity Assessment 80
4.2.1 Subscale Intercorrelations 81
4.2.2 Factor Analysis 84

4.3 Comparison with U.S. Data 90

4.4 Descriptive Analyses 94
4.4.1 Demographic Variables 94
4.4.2 Cross-Tabulation Results 99
4.4.3 Nursing Home Profile 107

4.5 Summary of Major Findings 112

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 115

5.1 Summary of the Study 115

5.2 Summary of Major Findings 117

5.3 Conclusions 120

5.4 Recommendations 122

REFERENCES 124

APPENDIX A: THE SHELTERED CARE ENVIRONMENT SCALE 140

APPENDIX B: FACTOR ANALYSIS RESULTS 145

APPENDIX C: CROSS-TABULATION RESULTS 154

LIST OF TABLES

Table		Page
I	A comparison of the SCES subscale internal consistencies of the residents and staff in an Edmonton nursing home with U.S. norms	79
II	Comparison of the intercorrelations among the subscales for the residents of the present nursing home study and the U.S. normative study	82
III	Comparison of the intercorrelations among the subscales for staff of the present nursing home study and the U.S. normative study	83
IV	Correlation matrix comparing subscales with extracted factors for resident data	86
V	Correlation matrix comparing subscales with extracted factors for staff data	87
VI	Means, standard deviations and Z-test results of the SCES subscales for residents in an Edmonton nursing home compared with the U.S. normative study and Ontario study results	92
VII	Means, standard deviations and Z-test results of the SCES subscales for staff in an Edmonton nursing home compared with the U.S. normative study and Ontario study results	93
VIII	Demographics of the respondents	95
IX	A comparison of the present study's facility characteristics and respondent demographics with U.S. normative data	97
X	Standardized scores for SCES subscales for resident and staff data	108

LIST OF FIGURES

Figure		Page
I	Sequence of research methodology	71
II	Comparison of resident and staff perceptions of their social environment using standard scores	109
III	Comparison of resident and staff perceptions of their social environment using actual percentage scores	111

CHAPTER I

INTRODUCTION

In recent years, there has been increasing external pressure to evaluate long term care institutions in Alberta. Demographic projections and changing social values have demonstrated trends which emphasize the need for holistic, institutional care of the elderly. Coinciding with this, governmental, accrediting and consumer bodies have increased their demands for accountability and their requests for reliable and valid information on quality control and cost containment. This presents itself as a dilemma for long term care administrators and planners who are faced with rising costs and shrinking health care resources.

This study's focus on the establishment of an empirical evaluation methodology to measure the quality of the social environment in long term care institutions reflects the importance of utilizing effective evaluation methodologies for improving administrative decisions and, in addition, ensuring accountability for the quality of long term care.

1.1 Statement of the Problem

In order for administrators and planners of long term institutions to establish external accountability, improve their internal decision-making and proactive planning capabilities, they require accurate and reliable information on the quality of care in their institutions. In this investigator's opinion, this becomes a two-part problem.

Firstly, the collection and analysis of reliable and valid data is extremely difficult. There are many program evaluation models and methodologies utilized in the health care field and these may or may not be appropriate for the evaluation of long term care institutions. In addition, research tends to involve a lengthy, arduous and expensive process which frequently results in recommendations of minimal practical use.

Secondly, although the literature on program evaluation and quality assurance is abundant, researchers have not established any consistent definitions or indicators of quality of care. There is, however, some evidence that a high quality social environment enhances well-being and is a determinant of the quality of care in a long term care institution. Unfortunately, there is a paucity of literature on the evaluation of the social environment in long term care institutions and any available studies have not fully established reliability and validity of their measuring instruments.

Given the above problem, an investigation into appropriate evaluation models and methodologies, quality assurance and social environment measurement tools will assist long term care administrators and planners in their resolution to promote a high standard of holistic, long term care.

1.2 Objectives of the Study

The purpose of this study is to establish and utilize an empirical evaluation methodology which will allow long term care administrators and planners to accurately measure the social

environment. This will consequently ensure that accurate information on the quality of care is available for external accountability and internal decision-making.

The following research objectives have been established to achieve this purpose:

1) To identify from the literature empirical evaluation models and methodologies which can be used to measure the quality of the social environment in long term care institutions;
2) To determine the reliability and validity of the Multiphasic Environmental Assessment Procedure (MEAP) methodology as an instrument for evaluating the quality of the social environment in nursing homes in Alberta; and
3) To interpret the MEAP data collected by the management of an Edmonton nursing home by performing in depth statistical analyses.

1.3 Significance of the Study

Accurate, reliable and valid data on the quality of care are vital to the development of a sound information base which facilitates planning and policy development in the long term care health field. The practical significance of the establishment of an empirical evaluation model and/or methodology becomes evident.

Firstly, long term care administrators and planners need assurance that the data collected accurately reflect the internal climate of the institution, thereby providing the basis for proactive planning, decision-making and change.

Secondly, external sources, such as the government, accreditation

organizations and consumer groups, need assurance that the information derived from the data accurately reflect the standards of care being provided by each long term care institution. The Nursing Home Act and Regulations, which were passed by the Government of Alberta in 1985, clearly outline standards of care which must be consistently met before institutions receive their operational and capital funding budgets. In addition, the Canadian Council on Hospital Accreditation (C.C.H.A.) has established standards in 1985 which need to be met before long term care institutions receive an accreditation status. "...THERE SHOULD BE AN ENVIRONMENT WHICH PROVIDES FOR SENSORY STIMULATION, ENCOURAGES INDEPENDENCE, AND MEETS THE NEEDS OF THE RESIDENTS SERVED..." (C.C.H.A., 1985, p. 7). Consumer groups, also, are increasingly demanding investigations into the quality of care being provided in long term care institutions (Canadian Union of Public Employees, 1980; Griesel & Horne, 1976; Alberta Public Health Association, 1981; and Monroe, 1978). Accurate information which is provided from data collected using empirical evaluation methodologies, thus, will ensure the viability of the long term care institution on the market, allow effective competition for scarce health care funding, and ensure system maintenance and development.

Overall, this study will amalgamate the available information on the evaluation of long term care institutions. It will provide significant assistance to long term care administrators and planners faced with being accountable for the quality of care in their institutions in Alberta and provide a basis for further research in Alberta.

1.4 Scope of the Study

This study encompasses an exploratory, descriptive cross-sectional, comparative analysis of the social environment in a nursing home in Edmonton, Alberta. It is restricted to staff working in and those residents residing in the nursing home during the month of May, 1986. The analysis will be descriptive in nature, exploring associations among variables, with no attempt to infer causal relationships. This study also intends to establish an empirical evaluation methodology which can be used by administrators and planners to evaluate the social environment in long term care institutions.

1.5 Assumptions

The objectives and research methodology for this study are predicated upon three assumptions:

1) Currently, there is a need for nursing home care and this service is being provided to Albertans. Based upon changing demographics and social values, it is assumed that nursing home care will continue as a viable institutional service in the future, that there will be an increasing demand for quality of nursing home care, and an increasing demand for accountability of this care.
2) Due to the nature of long term care, long term care institutions provide specific and measurable medical and nursing care, and a general, intangible psychosocial care. In this regard, it is assumed that the social environment is an important determinant

of the psychosocial care provided by long term care institutions and that an empirical measure of the social environment reflects the quality of care provided in the long term care institution.

3) The target population for this study is all those elderly residing in nursing homes and those staff working in nursing homes in the province of Alberta. It is assumed that the sample studied, though not a probability sample, is a representative sample of nursing home staff and residents within the province.

1.6 Limitations

This study is subjected to the following limitations in data and research methodology:

1) Data for this study have been collected from a limited sample of staff members and residents of one Edmonton nursing home, only one type of long term care institution, in the province of Alberta, thereby precluding generalization to other long term care institutions. Although it would be preferable to collect data using a probability sampling from several long term care institutions in Alberta in order to increase the generalizability of results, this is not feasible for this investigation. However, an internal consistency check, a comparison of intercorrelations among subscales, and analysis of the data using factor analysis have been made within the limitations of the available data source.

2) The study is limited to an analysis of the social environment during one specific time frame. Although a longitudinal study

would provide information indicating trends over time, this study is cross-sectional because of the available data source.

3) Analyses have been limited to descriptive analyses with some comparisons of: i) staff and resident perceptions of the social environment within an Alberta nursing home with United States (U.S.) norms; and ii) comparisons between staff and resident perceptions in the nursing home. There is no attempt to provide causal inferences. Nevertheless, the analyses will provide an information base for subsequent evaluations.

4) Although a comprehensive program evaluation of a long term care institution would include the measurement and comparison of cost-related data with all aspects of quality of long term care, this study is limited to the research and collection of data on the quality of the social environment only. Collection of cost-related data and comparison to all aspects of long term care is beyond the scope of this investigation.

1.7 Definitions of Terms

The following definitions are used within the context of this thesis:

ELDERLY (SENIORS, AGED): Those persons over 65 years of age.

EVALUATION: "The formal determination of the effectiveness, efficiency, and acceptability of a planned intervention in achieving stated objectives" (Holland, 1983, p. 8).

LONG TERM CARE: "That which is provided on an extended basis to meet the physical, emotional, social, spiritual and personal needs of

persons whose functional capacities are chronically impaired or at risk of impairment. It implies a holistic approach, which includes appropriate restorative, therapeutic, life enrichment, and maintenance programs, the objective of which is to increase or maintain the health and well-being of the individual to his/her maximum potential" (Health and Welfare Canada, 1984, p. 4).

MIDDLE-OLD AGE GROUP: Those persons between 75 and 84 years of age.

NURSING HOME: A long term care institution licensed by government to provide basic personal care under the supervision of nursing personnel.

OLD-OLD AGE GROUP: Those persons over 85 years of age.

PROGRAM EVALUATION: Refers to the formal determination, using a survey research technique, of the value of a long term care institution in achieving its objective of a quality social environment as it pertains to the social context.

QUALITY OF LONG TERM CARE: Refers to the degree of excellence of the technical combined with the psychosocial care.

SOCIAL ENVIRONMENT: Refers to the interdependency of the elements within a nursing home setting, such as physical structures and space; manmade objects; the residents and staff; and their social inter-relationships (Kannegieter, 1986).

WELL-BEING: Refers to the state of health, happiness, satisfaction with daily life, and a good environment (Lawson, 1983).

YOUNG-OLD AGE GROUP: Those persons 65-74 years of age.

1.8 Thesis Format

This thesis is presented in five chapters and three appendices. Chapter II provides a selective review of the literature as it relates to the evaluation of the social environment in long term care institutions. Chapter III outlines the research strategy and the methodology which has been employed in this study. Results of the study are presented in Chapter IV. Research findings, conclusions and recommendations are summarized in Chapter V. Appendix A contains a copy of the Sheltered Care Environment Scale questionnaire and answer sheet. Appendix B details the results of the factor analysis of resident and staff data, and Appendix C presents cross-tabulation results.

CHAPTER II

A SELECTIVE REVIEW OF THE LITERATURE

In the following section, this investigator reviews the literature related to the objectives of the study. The review focuses on three key areas: 1) program evaluation; 2) the social context of long term care; and 3) relevant studies on the evaluation of the social environment in long term care institutions.

2.1 Program Evaluation

The literature pertaining to the rationale for evaluation and for pertinent definitions is reviewed. In addition, in order to present a guideline which administrators and planners may follow for empirically evaluating the social environment in a long term care institution, various evaluation models, the formal evaluation process and evaluation methodologies are explored.

2.1.1 Rationale for Evaluation

Evaluation is necessary from two perspectives; external accountability, and internal management.

Protagonists of both established and developing long term care institutional programs, in the face of tight resource situations, increasing costs and demands for programs which ensure the quality of the services provided, insist upon information to establish accountability (Freeman, 1976; Baker, 1983).

The demand for accountability has come from funding and accrediting bodies, and to some extend the public (Glushek, 1985).

Long term care administrators and planners are faced with the necessity to ensure effective and efficient medical care and to evaluate ongoing functions and processes (Kupst, Schulman & Dowding, 1979). Administrators not only must demonstrate the needs to which their programs are addressed but also the contributions to alleviating social problems (Tripodi, Fellin & Epstein, 1969).

Undertaking an evaluation, therefore, provides evidence to any external groups that the program is worthwhile, that the program is moving in the right direction and that the needs for which the program is designed are being satisfied (Schulberg & Baker, 1968).

The long term care administrator and planner must also have a sound, documented foundation for internal management decisions and actions (Michnich, Shortell & Richardson, 1981) and this can be achieved through the use and understanding of decision-making tools such as quality assurance and program evaluation (Baker, 1983; Kane, 1981). Whereas quality assurance is concerned primarily with the effectiveness of health services and focuses on the practice of individual clinicians and clinical teams in relation to quality criteria, program evaluation emphasizes the organizational system characteristics of the evaluation process and focuses on the performance of programs in relation to organizational objectives (Metch, 1974; Baker, 1983).

Because program evaluation has a focus on the organization as a whole, it represents a relevant method for arriving at an overall assessment of the worth and accomplishment of a program in terms of objectives such as quality of care (Stuart, Rutman & Staisey, 1985)

and therefore, can provide relevant information for administrative decision-making.

Being faced with the necessity to provide evidence of accountability for their programs, administrators and planners need to focus on using guidelines such as definitions, models and methodologies which may provide empirical frameworks for the collection of reliable and valid data.

2.1.2 Program Evaluation Definitions

Many definitions have been presented in the literature for both terms; "program" (Baker, 1983; Schulberg, Sheldon & Baker, 1969; Stuart et al., 1985; Michnich et al., 1981; and Champagne, Contandriopoulos & Pineault, 1986) and "evaluation" (U.S. Department of Health, Education & Welfare, 1977; Quade, 1975; Baker, 1983; Schulberg et al., 1969; Holland, 1983; and Martin, 1977).

A program, according to Michnich et al. (1981), is

> "an organized response to eliminate or reduce one or more problems where the response includes one or more objectives, performance of one or more activities and expenditure of resources" (p. 264).

Under this definition, a long term care institution can be classified as a single program in itself or it can be broken down into several separate programs such as a nursing home program, home care program, alzheimer program, etc. As such, these programs are open systems; systems nested within systems which constantly interact and change with their external and internal environments (Daft, 1983).

Programs go through several stages of development such as

planning, implementation, impact and control stages (Veney & Kaluzny, 1984) and evaluation occurs at each of these stages in the form of formative or summative evaluations. Methodologies for evaluation of the developing program may or may not be similar at each stage.

A comprehensive and practical definition for the term "evaluation" is elusive in the literature. Three major characteristics have been identified.

Firstly, several authors have simply stated that evaluation is the process of determining the value or worth of something (Baker, 1983; Quade, 1975; Schulberg et al., 1969; and Barrett & Cohen, 1980). Secondly, most definitions which have been reviewed identify that evaluation determines the degree of success in achieving objectives. Thirdly, other authors have indicated that a definition for evaluation should emphasize that a formal method has been utilized to collect and analyze information (Veney & Kaluzny, 1984; and Holland, 1983).

A definition which lists these brief characteristics offers only a vague and incomplete guideline to administrators and planners commencing an evaluation process of their programs.

The U.S. Department of Health, Education and Welfare (1977) have concluded that

> "...the attempt to clarify the meaning of evaluation is not an idle exercise...different definitions...carry with them different advantages and disadvantages, each affecting the way in which evaluators approach and carry out their tasks" (p. 12).

Accordingly, evaluators must choose a definition to meet the needs of their specific program or research. Prior to establishing a

clear definition for the purpose of this thesis, the literature has been reviewed in order to expand upon the three brief concepts mentioned above. This review is presented in the following section under the headings of evaluation models, quality evaluation models, formal evaluation and evaluation methodologies.

2.1.3 Evaluation Models

"The purpose of a model is to guide and focus inquiry" (U.S. Department of Health, Education & Welfare, 1977, p. 14) and thus, can guide administrators and planners in determining the value of long term care programs.

Two evaluation models have been dominant in the field of evaluation. Schulberg and Baker (1968) refer to these models as the goal attainment model and the system model.

Goal Attainment Model

LaPatra (1975) has summarized the goal attainment model stating that the model stems from the conception that

> "if objectives can be clarified in the evaluation process one can then proceed with well-defined methodologies for determining the degree of success achieved in attaining the goal" (p. 130).

Although this model can be considered an objective and reliable analytical tool because it omits the values of the researcher and applies the values of the subject under study as the criteria for judgment, it also has some limitations (Etzioni, 1969). The goal attainment model assumes that program objectives are clear and

specific, when they are usually too vague, too general and too broad in scope to provide a well defined base for comparing results (U.S. Department of Health, Education & Welfare, 1977). Also, in order to use the goal attainment model a relatively constant environment is required but this is never the case in a health care program. As well, the model avoids the question of adaptation to change and ignores the important problem of perpetuation of the program itself (Zemach, 1973). In addition, the goal attainment model assumes that program goals can be modified and treated separately. "Goals, [however], are...interrelated, and the manner in which any goal is modified is constrained by the characteristics of the other goals" (LaPatra, 1975, p. 131).

System Model

Health care programs, such as nursing home programs, are social systems where goals may be ambiguous, multiple and conflicting (Campbell, 1983). Therefore, instead of studying goals or a set of goals, an evaluation model, such as the system model, which depicts a multifunctional unit would be ideal (LaPatra, 1975). This would ensure that some means are devoted to such nongoal functions as service and custodial activities (Etzioni, 1969). LaPatra (1975) summarizes the facets of the organization's program survival which the system model incorporates: 1) achievement of objectives; 2) coordination of subunits; 3) maintenance of necessary resources; and 4) adaptation to the environment including its own internal demands. Schulberg et al. (1969) have noted that "the starting point for a

study of program effectiveness should not be a specific goal or objective but rather a working model of the social unit which is capable of achieving a goal" (p. 11). The focus of a system evaluation model, thus, is the optimal distribution of resources among all organizational objectives, not maximal satisfaction of any one goal (LaPatra, 1975).

The evaluation of the organization's degree of success in achieving this optimal distribution, therefore, is in contrast to the more simple goal attainment approach requiring research to evaluate one organizational goal.

Use of the system model as a guideline for evaluation does have some drawbacks. It is expensive and complicated, and very few system evaluations have been found in the literature. This is because it is difficult for researchers, external to the program, to achieve the level of knowledge required to do an effective system evaluation (Schulberg et al., 1969).

Even with its limitations, the system model, because it emphasizes research design, data interpretation, and effective integration of findings, offers more promise for use of evaluation findings (LaPatra, 1975). Martin (1977) has quoted Rochon (1969) who has stated

> "the system model forces the investigator to integrate the evaluation process in the planning and administration of the program, thus increasing the possibility of using the results of the evaluation to introduce the desired changes of the program" (p. 67).

Shortell and Richardson (1984) believe that the evaluator needs to be aware of the specific program objectives and at the same time

have a basic understanding of the social context of the program.

After weighing the pros and cons of these two models, it appears that administrators and planners are guided toward evaluating their programs using a combined goal attainment and systems approach. The framework for program evaluation, therefore, must include not only an effective measure of goal achievement but also a method to assess the program's goal achievement in relation to the system's internal and external environments, maintenance of the program, and its adaptation to change. The next section focuses specifically on models used to measure whether or not the goal of quality of care has been achieved.

2.1.4 Quality Evaluation Models

There is a broad range of literature on the topic of quality assurance and several models have been found in the literature: process, structure and outcome models; implicit versus explicit judgments; subjective versus objective approach; cross-sectional versus longitudinal approach; and economic versus medical perspective.

Process, Structure, Outcome Models

The pioneering work of Donabedian (1966) has led several authors to write about the evaluation of quality via three approaches: process, structure, outcome (Hemenway, 1983; Linn, 1974; Ullman, 1981; Luke & Boss, 1981; Baker, 1983).

Donabedian (1980) has emphasized that the most direct route to measuring the quality of care is by evaluating the "process" of

care. Rolka (1983) has summarized process evaluation as the evaluation of the activities and events that make up the delivery of service. The less direct approaches to evaluation are "structure" and "outcome" measurements. Structural evaluation involves the examination of the physical amenities, qualifications of the staff, and the administrative organization of the health care facility. Outcome evaluation involves the evaluation of the effectiveness or end result of a procedure (Holland, 1983).

Mech (1980) has previously evaluated the process of the nursing care provided to 80 nursing home patients in Maryland by focusing on the actual care received by the patient. In this study, the investigator had observed each patient's care and tabulated results on the psychosocial, physical, general and communication aspects of care. Other process-type evaluations focus on the actual care given by the practitioner (Bloch, 1975) where the practitioner is observed giving care to the patient.

Although employment of the process evaluation model provides insight to the investigator on each patient's care and allows immediate correction of problems, there are two major disadvantages. There is a potential for observer bias and for less time for patient care because an increased amount of professional time and skill is required to effectively complete the assessment.

Donabedian (1966) has noted that evaluating structure is more of a proxy for quality than an actual measure of quality. It is assumed that a quality structure can be determined and that better care occurs with better structural components.

Kanaly and Smith (1982) who have previously conducted a survey of 1300 nursing personnel in Mississippi have determined that architectural features such as structural design typologies are important to quality and satisfaction. Hetherington (1982) has hypothesized that increased formalization (for example, quality assurance programs) favorably affects quality of care to the degree that the organization is structured to foster professional autonomy. Griffith (1978) has noted that structural measurement encourages high quality but does not necessarily guarantee it.

Many authors have agreed that it is desirable to have information on patient outcome as a measure of quality of care (Linn, Gurel & Linn, 1977; Bloch, 1975; Hemenway, 1983; Griffith, 1978).

Linn et al. (1977) have attempted in their study to relate the expected outcomes of 1000 male nursing home patients as classified by their physicians, to various nursing home characteristics. They have concluded that nursing homes with more registered nursing hours per patient have a positive impact on patient outcome, however, many other characteristics such as size, administrative policies, personnel practices, and safety are not associated significantly with patient outcome.

The outcome approach to evaluation is not only a long-term and expensive process, but there is a definitional problem (Linn et al., 1977). An outcome refers to a final consequence such as recovery, restoration of function or survival as they relate to the problems of "ill health, disability and death" (Donabedian, 1966). This definition, however, is not appropriate for those patients

incapacitated with chronic disease. Linn et al. (1977) have effectively expanded the definition to include all of the following: death, disease, disability, discomfort, and dissatisfaction, and this provides a wider range of outcomes for long term care programs. Where most researchers would utilize mortality and morbidity statistics as outcome measures of the quality of care if they followed Donabedian's definition, long term care researchers can more appropriately utilize an outcome measure such as satisfaction with care as it relates to the outcomes described by Linn et al. (1977).

Although each method on its own merit has its advantages and disadvantages, it appears that thorough quality assessment should encompass two or three of each of these categories (Donabedian, 1966; Bloch, 1975; Mech, 1980). Bloch (1975), who supports using a process-outcome approach, has quoted Deniston el al. (1968) who have pointed out

> "In evaluating effectiveness the question is not merely were the program objectives accomplished but to what extent can achievement of the objectives be attributed to the activities of the program" (p. 250).

Implicit versus Explicit Judgments

Implicit judgments are usually global assessments of care provided from records by practitioners, whereas explicit methods involve experts setting detailed criteria for care related to specific diagnoses (Linn, 1974).

When considering quality of care and life concerns,

> "many of us yearn to see demonstrated practices of the con[s]cionable use of explicit criteria reflective of the patient's own views, even when those views and preferences are ones the [practitioner] might not understand or admire" (Pearlman & Speer, 1983, p. 117-118).

Linn (1974) in her study, has used implicit evaluation by social workers and has compared results to the explicit evaluation of structural and process data. She has concluded that there is high agreement between both sets of data.

Subjective versus Objective Approach

Studies employing subjective assessments as the method of measurement have received more criticism than the objective assessments (Golant, 1986).

A collection of subjective information usually involves an interview process, use of a questionnaire or survey. This implies one major problem with validity and reliability. It is difficult to get a representative group from the population and there may be interviewer bias (Golant, 1986). Two other problems with the subjective approach are noted by Golant (1986) including: meaningless or misleading findings if respondents do not understand the questions or if they hide the real problem because they are fearful that the interview is being conducted for "hidden" reasons; and, analysis compromised by inadequate statistical procedures or an inept conceptual model. In addition, Singer (1977) has also noted another problem with the subjective approach. She has found after evaluating the subjective evaluations of 169 Parkinson patients that "people who are doing well tend to feel that things have improved over time; people who are doing badly tend to feel that things have gotten worse" (p. 84). Stoller (1984) has also supported this finding from her literature review and has stated that "pessimism appears to be

associated with social isolation, low morale, poor environmental adjustment and low activity levels" (p. 260).

The subjective approach, however, appears to be the only effective approach to measuring a respondent's perception of a situation (Stewart, 1987). The objective approach has difficulties in this specific area. Professionals trained in observation and evaluation (objective assessment approach) do not always agree with the personal assessments and feelings expressed by the client. The objective approach, therefore, lends itself to not recognizing those intangible properties that may influence a client's well-being (Golant, 1986) such as perceptions of satisfaction with care.

Cross-Sectional versus Longitudinal Studies

Linn et al. (1977) believe that while researchers studying nursing homes have not agreed upon a common definition for the term "quality", the majority have resorted to using a common methodology which relates the characteristics of nursing homes to the conditions of the patients in the homes, that is, a cross-sectional approach.

> "Cross-sectional surveys often attempt to measure change in one or more dimensions of respondents' lives through retrospective questioning and appraisals appear to reflect a comparison between what is [in italics] and what was [in italics] expected, rather than a comparison between what is [in italics] and what was [in italics]" (Linn et al., 1977, p. 337).

According to Booth (1986),

> "simple cross-sectional designs...are not suited to the study of institutional effects because...they are unable to discriminate between those effects resulting from the characteristics of institutional life or the quality of care and others associated with the process of becoming a resident..." (p. 419).

The longitudinal surveys, though time consuming and expensive, enable changes of residents to be measured over a period of time and represent the surest way of getting at the effects of residential living itself (Booth, 1986).

Only two studies have been found which have examined patients with regard to the quality of care on a longitudinal basis (Linn et al., 1977; Booth, 1986). The authors have noted that one major concern with the longitudinal approach is the possibility of significant loss of subjects to the study. This is more of a concern when evaluating an elderly population. Booth (1986) had lost 19.2% after the first year and a total of 33.5% after the second year.

Economic Perspective versus Medical Perspective

Hemenway (1983) has suggested that an "economic" taxonomy should be used to evaluate quality. In other words, by using market variables, survey results, output variables and input variables, consumers are able to judge the quality of a product and demand will reflect the consumer's choice. He has stated that the problem with judging the relative quality of most products or services is easily handled with this marketing approach. He has concluded, however, that since tastes differ, there is no theoretically correct way to determine quality.

The medical perspective, however, is in agreement with Hemenway's final conclusion. Consumers of health care are never fully informed

about the health care products they demand. There is an asymmetry of information, therefore, consumers are unable to make informed decisions, choices and evaluations of the quality of a health care product such as nursing home care (Evans, 1984).

Thus, it appears from the literature that the evaluation of quality is an unresolved issue. There are arguments for and against each perspective. The literature, however, tends to emphasize the following:

1) although an outcome model would be an ideal model for evaluating the quality of care in a long term care institution, and a measure of satisfaction with care is an appropriate outcome measure, most authors agree that using a combination of methods, for example, process with outcome is more effective;
2) implicit judgment evaluations, although less empirical, have been shown in one study to be highly correlated to explicit judgment evaluations and therefore, would be of use in the evaluation of quality of care;
3) although the subjective approach to evaluating quality has several weaknesses, it is useful when measuring intangible properties such as the perception of well-being or other psychosocial aspects including the social environment. Subjective evaluations can be improved upon with stringent checks for reliability and validity of the instrument, on the interview technique, and on the conceptual model of the instrument;

4) cross-sectional studies on quality are appropriate when concerned with loss of subjects to the study, as in evaluating a long term care program; and
5) a market perspective although useful in a typical factor market does not appear to be a useful concept when evaluating a health care product such as a long term care program.

2.1.5 Process of Formal Evaluation

A "formal method" is one important characteristic in a definition of "evaluation".

Although evaluation has always been an integral component of the management process (Michnich et al., 1981; Veney & Kaluzny, 1984) in earlier years, evaluation has typically been an informal process and generally relied on intuitive and subjective assessments of whether or not a program was useful (Holland, 1983). With the increasing complexity and the magnitude of health care programs, a corresponding higher level of evaluative skills and capabilities is required.

Formal program evaluation, therefore, may be distinguished from informal evaluation activities by the application of the scientific method to augment professional judgment (Michnich et al., 1981). It is a formal evaluation process which provides the reliable and valid data required for external accountability and internal decision-making.

Holland (1983) has described the scientific method as a complex interchange between theory and observation with their means of communication being measurement.

The scientific method is used in "evaluation research" and implies that social science methodologies will be applied to the assessment of social programs in order to determine empirically whether or not the employment of scientific procedures are useful (Freeman, 1976). Although the application of the scientific method also implies that research can only be done by scientists applying specific designs, it is important to note that evaluations useful for program decision-making can also be carried out by program personnel, who can use less powerful techniques (Veney & Kaluzny, 1978). Shortell and Richardson (1978) have distinguished "non-evaluative research", which is meant to contribute to disciplinary knowledge and the understanding of social and physical phenomena, from "program evaluation research" which is meant to judge the worth of a specific program; the evaluation results should be usable by program administrators and planners to modify programs as required. The difference between these two types of "evaluation research" is not in the methodologies utilized but on how the knowledge acquired is used. Suchman (1976) has noted that "evaluative research is a specific form of applied research whose primary goal is not the discovery of knowledge but rather a testing of the application of knowledge" (p. 75).

2.1.6 Evaluation Methodologies

As to evaluation methodologies in general, Suchman (1976) has noted

> "Evaluation research has no special methodology of its own. As 'research' it adheres to the basic logic and rules of scientific method as closely as possible....It utilizes all available techniques for the collection and analysis of data and employs a wide variety of research designs. It may be carried out under experimental laboratory conditions or in the natural community" (p. 81).

Tripodi et al. (1969) have identified three types of evaluation techniques useful for social program evaluation. Monitoring techniques such as accountability audits, and time and motion studies, assist in comparing the program plan with reality (Veney and Kaluzny, 1984). Cost-analytic surveys, such as cost-benefit and cost-effective analysis, are related to operation research techniques and blend experimental with cost-analytic methods. Social research methods are exclusive of cost considerations and are used for developing, modifying and expanding knowledge about the program which can be communicated and verified by independent investigators (Tripodi, et al., 1969). As long term care institutions are social programs and administrators and planners are interested in evaluating the quality of care, it would appear that the social research technique is an appropriate "scientific methodology" required for the formal evaluation process.

Several authors (Veney & Kaluzny, 1984; U.S. Department of Health, Education & Welfare, 1977; Tripodi, et al., 1969; and Babbie, 1973) have concurred that methodologies such as controlled experiments, case studies and survey research methods are available for social researchers.

The controlled experiment represents the clearest example of scientific research (Campbell & Stanley, 1966). Case studies

represent a comprehensive description and explanation of the many components of one social situation (Veney & Kaluzny, 1984). Although no single method should be used to the exclusion of others, funding, time frames and other constraints might lead to the selection of survey research as an ideal approach to measuring a long term care program (Veney & Kaluzny, 1984).

Survey Research Methods

Surveys are frequently conducted for the purpose of making descriptive assertions about some population (Babbie, 1973). Surveys may also provide explanatory assertions about a population. Veney and Kaluzny (1984) believe that by utilizing a multivariate analysis of the survey data, that is, the simultaneous examination of two or more variables, this method could provide insights about association or, possibly, cause-effect relationships.

Tripodi et al. (1969) have outlined two possible advantages to using survey research techniques. Firstly, surveys are a flexible technique and can be adapted to fit varying cost budgets. Secondly, surveys can be used in all stages of program development, that is, to determine need at the initiation of a program, to determine the effectiveness of the efforts of personnel during the implementation stages of a program, and to provide evidence on the total effectivenss of the social program during the impact stage of program development.

One main weakness to utilizing surveys for program evaluation resides in the use of "patient satisfaction" surveys. Some authors

have utilized patient satisfaction surveys as empirical measures of the patient's perception of the care received (Walker & Restuccia, 1984; and Speedling, Morrison, Rehr & Rosenberg, 1983). Speedling et al. (1983) have noted that patient satisfaction surveys in general have not achieved a high level of technical proficiency. Ware, Davies-Avery and Stewart (1978) in their review of the literature have concluded that the issues of measurement adequacy and usefulness can be dealt with if reliability and validity are better documented.

It appears that the pros outweigh the cons in the utilization of survey techniques for the formal evaluation of a long term care program. The main weaknesses can be overcome with a clearly documented account of the reliability and validity of the methodologies utilized in the study.

2.1.7 Summary

From the literature it has been determined that:

1) Evaluation is a necessary process for long term care administrators and planners and it must be done empirically in order to provide valuable information on the quality of care.
2) The evaluation process should involve not only a measure for determining the degree of success in attaining a goal such as quality of care, but also a measure for determining the effect that achieving the goal has on the program as a whole, including the internal and external environments, maintenance of the programs, and adaptation to change.

3) Several models are available for the evaluation of quality. Use of a satisfaction survey methodology to evaluate the process or outcome of care can provide empirical evidence on quality as long as stringent checks are made to test the reliability and validity of the instrument utilized, the interviewer technique, and the conceptual model of the instrument.

2.1.8 Conclusion

In order to empirically evaluate the quality of care in a long term care institution, administrators and planners need a framework to follow. It appears that, in this instance, evaluation is the formal determination, using a survey research technique, of the value of a long term care institution in achieving its objective of a quality social environment as it pertains to the social context of the long term care program.

2.2 Social Context of Long Term Care

> "The aging of individuals is a biological process; however, it is possible that the most important things about aging are social rather than biological or psychological. Both survival and the quality of life in the later years are influenced by social relations, economic history, family connections, and other social factors. Psychological aging may be a universal process, but the individual's experience of aging depends in large measure on social context" (Marshall, 1980, p. i).

Thus, it appears that the social context or the social condition which leads to specific program interventions (Shortell & Richardson, 1984) is likely to determine the social reality for the aged population.

Administrators and planners involved in social intervention programs such as long term care institutions can not be neutral observers. They are actively engaged in evaluating, modifying and structuring the social reality for the elderly (Marshall, 1980, summarizing Estes & Freeman, 1978). More specifically, long term care institutions must be understood in the context of the larger social formation which has created this program (Myles, 1980). The following section of this review: 1) discusses the current long term care situation in Canada, as it pertains to the changing demographics and values which indicate future trends; and 2) emphasizes the impact the social context may have on the empirical evaluation of the social environment in a long term care institution.

2.2.1 Current Situation of Long Term Care in Canada

Long term care has been clearly defined by Health and Welfare Canada (1984).

> "Long term care is that which is provided on an extended basis to meet the physical, emotional, social, spiritual and personal needs of persons whose functional capacities are chronically impaired or at risk of impairment. It implies a holistic approach, which includes appropriate restorative, therapeutic, life enrichment and maintenance programs, the objective of which is to increase or maintain the health and well-being of the individual to his/her maximum potential" (p. 4).

"Long term" care implies a lengthy period of time. Medicus Canada (1982) has emphasized that the extended period of care for the elderly is unpredictable and may be months or years. Hodkinson and Hodkinson (1981) more specifically have defined that long term care is for patients requiring longer than 6 months of care.

The objective of increasing or maintaining the health and well-being of long term care clients has been noted by other authors (Lynch, 1984; and Jesion & Rudin, 1983).

The World Health Organization in 1946 has defined "health" as a state of complete physical, mental and social well-being (as cited in Holland, 1983). Focusing on the "well-being" aspect of "health", Lynch (1984) believes that well-being is more than physical because the contemporary philosophy of health care calls attention to the whole patient, not just to physical or mental malfunction.

Well-being has also been linked to the quality of life. Sherwood (1975) has defined the quality of life of a patient as "care of the total person, and this is reflected in his physical, social (including economic) and psychological well-being" (p. 26). Several authors have agreed that especially in the institutionalized long term care setting, humane treatment requires a balance between medical and psychosocial aspects of care (Rainwater & Christiansen, 1984; Linn, 1974; Kahana, 1973; Ryden & Rustad, 1985; Blair, 1979; Williams, 1986; Lynch, 1984; Maddox, 1985).

Well-being has also been linked to the environment. Schnore and Cyre (1980) have examined the influences of environment from a psychological perspective. They have noted that the "environment exerts an important influence on...behaviour and well-being...[and there is an] important distinction between 'behavioural' and 'geographical' environments" (p. 1). The "behavioural" environment, which refers to the individual's perceptions of the physical and social environment, is believed to be much more important than the

"geographical" environment or the physical features of a setting (Schnore & Cyr, 1980).

By using the holistic model, especially in long term care where the resident is not considered able to return to "health", new concepts of health outcome have been developed to include overall levels of well-being (Holland, 1983). Lawton (1983) has stated that "'well-being'...might be looked upon as the right to health, happiness, satisfaction with daily life, and a good environment" (p. 349). It appears that long term care administrators must attempt to achieve the objective of well-being and holistic long term care through several avenues, including the environment.

Long term care services are provided in a variety of settings including private homes, day care centres, day hospitals, boarding homes, homes for senior citizens, lodges, nursing homes, auxiliary hospitals, psychiatric facilities, and active treatment hospitals. These services range from non-institutional to institutional. A nursing home, the focus of this study, represents only one possible setting for the delivery of long term care services (Medicus Canada, 1978). As an institutional setting, it is pertinent to discuss the social context surrounding institutionalization.

Institutionalization

A major reason for the emphasis on institutional long term care for the elderly is closely linked to the legislation surrounding health care in Canada. Schwenger and Gross (1980) believe that the Canadian Health Insurance scheme which is currently under the Canada

Health Act of 1984, biases the care of our elderly toward institutionalization. Home care and alternative community and non-institutional services have not been funded to the same degree as hospital and institutional services since the inception of the Hospital Insurance and Diagnostic Services Act, 1958 and the Medical Care Act, 1968 (Meilicke & Storch, 1980). Thus, economic incentive has led to a comprehensive development and more emphasis on institutional than non-institutional services.

Several additional reasons for increased institutionalization have been noted in the literature. Schwenger and Gross (1980) have observed that there is the tendency by Canadians to institutionalize so called "deviant" groups, whether criminal or invalid, young or old. Also, the middle-old (75-84 years) and old-old (over 85 years) age groups tend to require more institutional care. Gutman (1980) has noted a lack of sophistication in assessing the problems of the aged leading to misdiagnosis and inappropriate institutionalization. Medicus Canada (1982) have specified that a dearth of home care and other community support services contributes to institutionalization of the elderly.

Several authors have noted that Canada has one of the highest rates of institutionalized elderly of all the countries in the world (Gutman, 1980; Alberta Public Health Association, 1981; Marshall, 1980; and Alberta Department of Hospitals and Medical Care & Alberta Mortgage and Housing Corporation, 1981). Schwenger and Gross (1980) have identified that the percentage of persons over 65 years of age in institutional care on any one day in Canada is 8.4% (1976 figures)

compared to 5.1% in Great Britain (1970-71 figures) and 6.3% in the U.S. (1973-1977 figures). According to the Alberta Department of Hospitals & Medical Care and Alberta Mortgage and Housing Corporation (1981), provinces such as Saskatchewan and Alberta exhibit the highest rates in the country with the Alberta rate being estimated as high as 12% (1980 figures including lodges).

Furthermore, 8-9 percent of those over 65 years of age will spend some time in a nursing home or other institutional setting before they die (Marshall, 1980; Myles, 1980).

A curative bias is present in the current health and institutional care system. Marc Lalonde (1974) has observed:

> "For a health care system whose essential motivation is based on curing the sick, the treatment of the chronically ill is not very satisfying because the treatment is long and in many cases success cannot be measured by cure so much as by controlling the disability created by a chronic condition.
>
> Somehow, the value system of the HEALTH CARE ORGANIZATION will have to be revised so that the care of the chronically ill will be seen to be as rewarding as the cure conditions. The need for this revision of the value system is already pressing and will become more so as the percentage of the aged in Canada's population increases" (p. 59-60).

Lalonde (1974) has identified two important concepts relating to the social context of long term care in Canada--changing demographics and changing values. Several other authors have agreed that demographic characteristics impact on the needs and demands of the population which affect the level and type of services required (Shulman, Marshall, Powell & Martin, 1980). The values of society are the principles by which these needs and demands are priorized (Suchman, 1976 citing King, 1962). Such concepts can provide

extensive background information from which informed decisions and program and policy changes can be made (Seleen, 1981).

2.2.2 Changing Demographic Profile

Demography is "the study of mankind collectively, especially of their geographical distribution and physical environment" (Friel, 1974, p. 419). A demographic profile provides the foundation for the elderly's living situation, their economic situation, their health experience and their social circumstances (Chappell, 1982). The focus of this thesis requires an understanding of how the changing demographics affect the needs of the elderly in respect to their living situation and health experience.

Needs of the Elderly

> "Improvements in public health practices, new technological advances and a better understanding of the preventative, curative, social and rehabilitative aspects of health care have resulted in greater longevity for many Canadians. This has led to an increase in the number of persons [needing] some form of long term care..." (Health and Welfare Canada, 1984, p. 1).

The terms "need" and "demand" are frequently used interchangeably. "Demand" refers mainly to those services which are sought by consumers appropriately or not. The concept of "need", however, which "relates to the professionally defined magnitude of health problems in a population and the particular types and amounts of services required to address these problems" (Medicus Canada, 1978, p. 14) is pertinent to this review. Several authors (Medicus Canada, 1978; Shulman, 1980; Marshall, 1980; Moos, 1980; and Ullman,

1981) have identified that age is probably the most significant factor in determining need for level and type of long term care services. Age structure impacts on other factors such as functional status, social status, and income. In addition, gender is a significant factor in understanding the utilization of institutional services (Medicus Canada, 1978; Moos, 1980).

Age Structure

Canadian society is aging. Societies are referred to as "old" when those over 65 years of age exceed 7 percent of the population (Havens, 1982) and this occurred in Canada with the census of 1971 (Science Council of Canada, 1976). In 1986, there were 2,697,575 persons [excluding the estimate for incompletely enumerated Indian Reserves] over 65 years of age in Canada, representing 10.6% of the Canadian population. Alberta had 191,330 persons over 65 years of age, representing 7.1% of Canada's elderly and 8.1% of the total population of the province which was 2,365,825 [excluding the estimate for incompletely enumerated Indian Reserves] (Statistics Canada, 1986). It appears that Alberta's population is younger in comparison to the overall Canadian population.

The absolute and relative numbers of elderly have been increasing steadily and this trend is projected to continue (Alberta Senior Citizens Secretariat, 1986). By the year 2006, according to Series I (low growth) estimates, the elderly would represent 10.4% of the total population of Alberta. Series II (high growth) estimates show that seniors would form 9.8% of the Alberta population (Alberta

Bureau of Statistics, 1987).

In addition to this, those elderly in the old-old age group (85 and over) will increase in number. By the year 2006, the numbers may increase from the current .6% [1981 figures] of the total population of Alberta to either 1.08% [Series I] or 1.01% of all Albertans [Series II](Alberta Bureau of Statistics, 1987).

Sex Structure

Those most at risk for institutionalization are not only the old-old population but also older women and those elderly living alone (Alberta Senior Citizens Secretariat, 1986). By the year 2000, according to the demographic indicator of sex ratio or the number of males per 100 females, for Canada there will be 66 men per 100 women over 65 years of age and 46 men per 100 women over 80 years of age (Department of National Health and Welfare, 1982). Projections for Alberta also indicate a somewhat greater proportion of women seniors, especially in the over 85 years of age group (Alberta Senior Citizen Secretariat, 1986). For all age groups, a higher percentage of women as compared to men live alone, and the percentage increases up to age 85 years (Alberta Senior Citizen Secretariat, 1986). Medicus Canada (1978) has predicted that the

> "older population will increasingly become a population of widowed, divorced and single women, who are less likely to have someone who can serve as a surrogate nurse or household helper" (p. 20).

These population projections have implications for the economic burden of dependency in future decades. Denton and Spencer (1980)

have examined elderly dependency ratios which are calculated by "the ratio of those 65 and over to those 20-64" (p. 17). Using a particular set of assumptions concerning the future course of fertility, mortality, and rates of migration, Denton and Spencer (1980) have calculated that the elderly-dependency ratio will more than double between 1976 and 2031 from .16 to .33. Several authors have agreed; however, that while the long range implications of changes in the population structure will require adjustments in our social institutions to provide for the needs of an older population, the changes will be gradual (Marshall, 1980; Powell & Martin, 1980; and Denton & Spencer, 1980).

The elderly are noted consumers of health services; therefore, it would appear from analyzing the demographic trends that health care for the aged will be of importance to the political and economic environment (Marshall, 1980). Because of the forecasted growth of the aged in Canadian and Albertan populations, the federal and provincial governments are very concerned about the future cost of institutional care. Curbing the supply of beds is not the complete answer if genuine needs are to be met. Nursing homes have developed as important means for managing the needs of the elderly (Broling, Vrooman & Sommers, 1983). This type of institutional care is quite appropriate, particularly for those elderly Canadians at advanced ages (Schwenger & Gross, 1980) and without families to assume the heavy burden of care (Broling et al., 1983). In the future, the demand for nursing homes is likely to continue (Broling et al., 1983). Schwenger and Gross (1980) believe that the

> "balance we should strive for might be described in the wording of an old Canadian aphorism: 'Institutionalization if necessary, but not necessarily institutionalization'" (p. 256).

Administrators and planners must be aware of these changing trends in order to adjust their services to meet the changing needs of the elderly in society and in their institutions (Barney, 1974).

2.2.3. Current Values of Long Term Care

"Long term care reflects societal values that are rarely articulated and even less often measured" (Kane, Bell & Reigler, 1986). Szafran (1985) has concluded that factors concerning values present measurement difficulties as they are determined by the complex, simultaneous interaction of various economic, psychological, and demographic variables. Because values provide the means of organizing social action programs (Suchman, 1976) and determine which standards for care exist (Holland, 1983; and Kahana, 1973), it is important for administrators and planners to have data on the underlying assumptions behind their social action programs, that is, the values underlying their long term care institutions.

There is a general philosophy that individuals in society have the right to receive long term care if it is needed (Sherwood, 1975). Foremost, in Canada, health care values stem from the Canada Health Act of 1984, which outlines that every Canadian has the right to comprehensive, universal, publicly administered, portable and accessible health care.

Long term care should favour an individualized approach

(Sherwood, 1975). It is beyond the scope of this thesis to discuss those values relating to the evaluation of individual needs. There are three values, however, which have been identified in the literature and which have special relevance to the individualized approach to long term care. The right of the individual to have autonomy and privacy has been cited by some authors (Lynch, 1984; and Doudera, 1985). Doudera (1985) has noted that the "right of a person to control his own body is a societal concern" (p. 5). The right to privacy, confidentiality, and the freedom to make choices are preeminent rights (Lynch, 1984) and these values may be constrained in the elderly because of their physical frailty, their poverty, sensory or intellectual deficits, or the coercive environments within which they frequently live (Doudera, 1985).

Lynch (1984) has also pointed out that health care providers should focus on assisting the resident to designate activities which enhance their own individual sense of well-being. Humane interaction should begin on the resident's own "turf", in a familiar and comfortable atmosphere, and in harmony with the resident's individual rules, values and beliefs (Rainwater & Christiansen, 1984). What care providers may regard as a beneficial outcome of care may not be so perceived by the resident (Lynch, 1984) and may lead to feelings of dissatisfaction or repulsion (Myles, 1980; and Williams, 1986).

Another principle relating to the individualized approach is with regard to the right to fairness or equity of treatment to each and every individual (Lynch, 1984; and Powell & Martin, 1980). In support of this value, Hetherington (1982) has identified that

professional ethics direct professionals, such as physicians and nurses, to act in the best interest of each individual they serve. He has noted that society tends to provide its highest rewards to those professional groups who demonstrate a service orientation towards the public.

Values Surrounding Institutional Care

Sherwood (1975) has identified that in society and external to the institutional setting, there is a negative stance against unnecessary institutionalization of the long term care client. Indiscriminate institutionalization is under public scrutiny (Myles, 1980; Medicus Canada Health, 1982) for the following reasons: the personal preferences of people to remain in their own homes (Science Council of Canada, 1976), the potentially harmful effects of life in institutions (Broling et al., 1983); the rejection of the institutional solution by the majority of elderly and disabled (Medicus Canada, 1982), and the escalating cost of institutional care (Schenger & Gross, 1980).

The values which are related to the actual care of the elderly within these institutions, however, stem from two models currently impacting on the health care system--the medical model and the social model.

Jesion & Rudin (1983) have defined the medical model as "one in which the doctor determines the diagnosis, prescribes treatment, and manages the continuing care" (p. 65). The problems of the client tend to be physical, physiological and/or rehabilitative; and illness

and subsequent care are the focal points.

At the other extreme, is the social model which

> "...tends to focus on the psychosocial services...add[s] meaning to life as well as to the general well-being of the residents by addressing their physical, emotional and social adjustment and by evaluating and interpreting the social, economic, emotional and cultural factors..." (Jesion & Rudin, 1983, p. 65-66).

The exclusive application of the medical model to long term care, as noted by several authors, is recognized to be detrimental to the "holistic approach" to long term care (DiBerardinis & Gitlin, 1980; Ryden & Rustan, 1985; Kahn, Hines, Woodson & Burkham-Armstrong, 1977; Shore, 1986; and Pastalan, 1986). It appears that a proper mix of the medical and social models are essential to meet the needs of the long term care resident (DiBerardinis & Gitlin, 1980; Jesion & Rudin, 1983; and Shore, 1986). The residential nature of long term care is receiving increased emphasis because there is a growing realization that most of the resident's life in a long term care institution constitutes a permanent living situation (Harel & Nagpaul, 1979; Pastalan, 1986). The emphasis on a "home" climate involves improving the psychosocial conditions by increasing the control the resident has over his/her "whole" environment (DiBerardinis & Gitlin, 1980). Psychosocial dimensions become a legitimate component of cost and care in a long term care institution (Harel & Nagpaul, 1979).

2.2.4 Future Changes in Societal Values

General Population

Dyck (1970) has prepared a series of forecasts on social

phenomena in Alberta by using the Delphi technique. The panel of experts had concluded in 1970 that Alberta could expect a complete shift in value systems in the future. Over a period of 20 years, there was to be a sharp upgrading in values pertaining to personal well-being in the areas of personal liberty, freedom, individuality, self-respect, and health care. Values pertaining to health care were among those which would, in relative terms, be sharply upgraded in the future. Factors identified as significant in the upgrading of health care were: the "rising standards and expectations on the part of the public...[and], the change in emphasis to preventive rather than corrective medicine" (Dyck, 1970, p. 53). The value of quantity was to give way to the value of quality and the citizenry would be more easily mobilized on behalf of a variety of goals--goals which would frequently be in conflict.

Only 2 years remain before 1990, fulfilling Dyck's 20 year forecast of 1970. During the past 20 years, there has been a definite shift towards personal health and well-being. Various diets and fitness routines such as aerobics and jogging, and other fads have become the theme of the 1980's pro-fitness and "participaction" consumer.

These same fitness themes have been introduced into long term care institutions in the form of increased recreation and rehabilitation programs as required by the Nursing Home Act of 1985. Accreditation standards have also been recently revised (C.C.H.A., 1985) with a heavy focus on quality assurance programs.

Consumers of today continue to be extremely demanding as they

push for such health care preventive measures as smoke free environments in the work place, seat belt legislation, alcohol prevention programs through the Alberta Alcohol and Drug Addiction Commission, et cetera. Thus, it appears that some of Dyck's predictions have come into effect.

Elderly Population

Science Council of Canada (1976) has cited Neugarten (1974) who has made theorizations about the young-old (65-74 years) age group and their impact on society by the year 2000. The young-old of the 1990's will include those who are presently 50 to 60 years old, and who are and have been involved in major political and cultural forces which have altered traditional social institutions, such activities as mentioned in the above section. Neugarten (1974) has theorized

> "As the young-old articulate their needs and desires, the emphasis will likely be upon improving the quality of life and upon increasing the choices of life styles...the young-old of the 1990's are likely to wield their influence through direct political action and to make demands of both the public and private sectors to bring the benefit structure in line with their raised expectations" (p. 197-198).

Following this, Myles (1980) has stated that "it is to be expected that the quality of institutional care provided to the elderly will increasingly conform to these expectations and demands" (p. 266).

2.2.5 Summary

1) The current social context for long term care can be summarized as follows:

i. The Canadian government has established that long term care should provide a holistic approach in improving or maintaining the health and well-being of each individual requiring long term care.

ii. Current societal values identify that any individual needing long term care should receive it and that it should be individualized care.

iii. Canada has one of the highest rates of institutionalization in the world and this is not likely to change because of several reasons. Current funding incentives center on institutional care which leads to a dearth of community long term care services. There is a tendency in Canada to institutionalize "deviant" groups. There are frequent problems in the area of improper diagnoses and referral to institutional care.

iv. The current health and institutional care value system is based on curing the sick while caring for the chronically ill is not emphasized.

2) Demographic characteristics are changing in Canada and Alberta to the extent that the old-old (over 85 years) population, single older women and those living alone are increasing in numbers. These groups are at risk to requiring institutional care which will ensure the expansion of long term care institutions.

3) As societal values change, there will be rising expectations from demanding consumers for quality health care which emphasizes individualized, holistic care.

2.2.6 Conclusion

A larger share of the nation's health service budget will eventually be directed at the long term care system. However, if administrators and planners are to receive a fair distribution of the total economic output to fund their long term care institutions, they will be required to convince society through empirical evaluation methodologies that they are meeting the demands of consumers for quality, individualistic, and holistic long term care. By empirically evaluating the social environment within the long term care institution, administrators and planners will be able to provide evidence on the quality, individualistic and holistic requirements demanded by society.

2.3 Evaluation of the Social Environment

Several authors have noted that the environment in long term institutions is important to evaluate (Lawton, 1983; Moos, Gauvain, Lemke, Max & Mehren, 1979; Stein, Linn, Stein & Linn, 1983; Dougherty, 1985; Billingsley & Batterson, 1986; Moos & Igra, 1980; Nehrke, Morganti, Hulicka, Turner, Cohen, Whitbourne & Cahaldo, 1984; Wandersman & Moos, 1981; Spencer, 1987; Moos, Lemke & Clayton, 1983; Yerxa & Baum, 1987).

Some authors (Pinder, 1981; and Moos et al., 1983) believe that older people need information on the various environments so that they can compare institutions in order to make a selection on the basis of optimal match to personal needs and personalities. Medicus Canada (1982) has also pointed out that information on the types of

programs, comprehensiveness of services, the social environment and quality of care is often not available to residents, the families of residents and those providers making institutional placement decisions.

Empirical data collected on the environment in long term care institutions would not only contribute to placement and policy decisions, but also facilitate short-term changes and give prospective residents and staff an idea of the kinds of behaviour they are likely to encounter in an environment (Wandersman & Moos, 1981) and whether the environment will affect their well-being. Lawton (1983) has stated that well-being, an outcome criteria (Wandersman & Moos, 1981), is affected by a "good" environment.

The following section of this paper will: 1) define a "good" or "quality" environment by reviewing the literature on quality and quality indicators; 2) describe the social environment from a conceptual perspective, and discern what tools are available to evaluate it; and 3) describe the MEAP methodology and what other researchers have concluded about the use of this instrument.

2.3.1 Evaluation Concepts

Quality Defined

Quality is a subjective phrase that means many things to many people (Mitchell & Copeland, 1985). Simply defined by Barrett and Cohen (1983) quality is "the degree of excellence" (p. 651). This does not clarify whether quality is

> "a single attribute, a class of functionally related attributes, or a heterogeneous assortment gathered into a bundle by established usage, administrative fiat, or personal preference...even if the attributes [of quality] can be identified, it would still be necessary to translate them into criteria and standards that can be used to make consistent judgments" (Donabedian, 1980, p. xi).

Further to this, Donabedian (1980) has discussed the concept of quality in terms of three definitions. The "absolutist" or the professional definition of quality of care is "the management that is expected to achieve the best balance of health benefits and risks" (p. 13). The "individualized" definition of quality occurs "when the judgment...takes into account the patient's wishes, expectations, valuations" (p. 14). The third definition, which is the "social" definition involves not only the characteristics of the "individualized" definition but also includes a desire for the aggregate net benefit (or net utility) for an entire population with an emphasis on the social distribution of that benefit within the population. His overall definition is the "highest quality of care would be that which yields the highest net utility for the entire population" (p. 15) and he has clearly stated that this may be a "utopian solution".

Brook and Williams (1975) have simplified the definition which is summarized by the following formula:

$$Q = T + A + (T)(A) + E$$

where, Q = quality of health care,

T = technical care,

A = art of care, and

E = error factor.

Technical care includes the adequacy of the diagnostic and therapeutic processes. Art-of-care relates to the milieu, manner, and behavior of the provider in delivering care. The interactive term emphasizes that the two terms are not just additive and the error term has been included because a measurement of any construct, such as quality includes random error.

It appears that the inclusion of the "art-of-care" in a definition is important especially when considering a definition for quality of long term care (Kahana, 1973; Price, 1981) where psychosocial aspects of care are necessary inclusions.

Some authors have emphasized that the long term care environment can be significant force for enhancing and optimizing functioning for fostering independence, minimizing dependence and for providing a quality of daily living (Shore, 1986; Martin-Smith, 1984).

The terms "quality" and "quality of care" have many connotations and authors do not agree on one definition. For the purpose of this thesis, therefore, the "quality of long term care" is defined as the degree of excellence of the technical combined with the psychosocial care. The social environment is one determinant of the psychosocial care provided in long term care institutions.

Quality Indicators

Three patterns are noted in the literature which devise "probable" indicators on quality of care as it relates to the environment in institutions. These are the: 1) use of objectively identifiable characteristics; 2) use of professional staff

observations; and 3) use of a conceptual approach.

Objectively identifiable characteristics of the institutional environment have been used to determine quality of care. Ullman (1981) in his review of the literature has noted that many researchers have examined the relationship between facility quality and facility size. Quality in these types of studies is measured in terms of the number of patients per room, barrier-free environments, resident socialization, cohesion and independence; and a positive relationship between quality and size has been identified. Fottler, Smith and James (1981) have noted that the number of skilled nursing hours is an effective indicator of quality performance. Other authors (as reviewed by Kart & Manard, 1976; and Linn, 1977) have utilized quality indicators such as resident participation, therapeutic orientation of staff and administrative policies, personnel practices and staff/patient ratios, but have not necessarily found significant relationships. There appears to be no pattern as to which environmental characteristic is an ideal indicator of quality in an institution.

Professional staff have also been used as raters of quality of care in institutional environments. Health care professionals, for example, have determined 18 process factors related to quality of care for a study by Longest, Foster, Hilgers, McNeil and Rentz (1975). Relating these factors to process and structural characteristics, they have concluded that change is not a significant factor, the number of dieticians in an institution is significant and that smaller nursing homes provide a high quality of care. In

another study, Gottesman and Bourestom (1975) have utilized trained assistants to document the number of times a patient was observed receiving basic social or nursing care. They have concluded that those receiving the most care are the most impaired and need the most care but they have made no conclusion as to relating quality to the amount of care.

In another study using professionals to rate quality of care, Kart and Manard (1976) have observed that "characteristics that [make] the home best in the professionals' eyes [are] not in many cases what [makes] it the happiest environment for the residents" (p. 2). Kahana and Coe (1969) have also compared staff descriptions of each resident in terms of effective responses, self-responsibility characteristics and physical characteristics. They have concluded that there are consistent differences between the self-evaluation of residents and staff perceptions of them. Kane et al. (1986) have noted in their study, that residents rate every outcome domain such as discomfort, affect, satisfaction, and death, lower than providers, administrators, family and community members.

A third approach to indicating quality as related to the environment is by incorporating a conceptual scheme (Harel, 1981). Environments have been conceptualized and evaluated as social systems (Spencer, 1987). Yerxa and Baum (1987) believe that

> "[g]eneral systems theory may provide a useful approach to studying the older person-environment interaction in all its richness; sustaining...[a] view that humans act on and change their milieu rather than remain at the mercy of it" (p. 9).

Several authors (Moos et al., 1979; Nehrke et al., 1984; and Harel, 1981) have cited the work of Murray (1938) who has conceptualized the dual process of personal needs and environmental press. In other words, people have "needs" and the environment is composed of "press" which potentially satisfy or frustrate these needs. Environment press is related to all the elements around an individual that have an impact or an effect upon that individual (Ansello, 1985).

Lawton (1983) believes that there is a "need" for a balance between press and competence. Competence is related to life satisfaction in the areas of health, sensorimotor skills, cognitive and intellectual skills, and emotional strength (Ansello, 1985). The adaptation level of an individual is influenced by the congruence between the environment in which the individual is functioning and the individual's competency (Maguire & Kramer, 1981).

Many authors have described a multidimensional approach to evaluating the environment (Penning & Chappel, 1980; Kahana, 1982; Nekrke et al., 1984; and Moos & Lemke, 1984d). Lawton (1983) has postulated that five environmental components interact with an individual's level of competence: 1) the individual's (perceptual and cognitive skills and life experience); 2) the interpersonal environment (significant others); 3) the suprapersonal environment; 4) the social environment which consists of social structures, norms, and institutions which characterize the milieu; and 5) the physical environment.

This ecological model of person-environment interaction provides

a conceptual framework for evaluating the quality of the environment.

Harel and Nagpaul (1978) and Harel (1981) have utilized a three dimensional conceptual approach of permeability, resident domain and need gratification to discern patients preferences to institutional care. Harel and Nagpaul (1978) have concluded that the most satisfactory homes provide diversity in the environment, are flexible and tolerant to varied needs, and provide the highest quality of care to the greater number of residents. The study by Harel (1981) has indicated that gratification of social needs is important in determining life satisfaction and satisfaction with care.

There appear to be common problems with all the previously mentioned approaches to evaluating quality of care as it relates to the environment. The term "quality" has not been defined specifically and the level of care being studied has not been defined in any of the studies, and the results have tended to be inconclusive as to which indicators are significant in identifying the quality of care and the environment.

It appears that a conceptual approach using several dimensions is the most appropriate method for evaluating the quality of the environment. As the social environment is one of the environmental dimensions and is a determinant of the quality of care, it is discussed in more detail in the following review.

2.3.2 Social Environment in Long Term Care

Several authors have emphasized the need to examine the physical environment for the planning of long term care institutions (Lawton,

1983; Carter, 1986; Maguire & Kramer, 1987; Midkiff, 1985; and Andreasen, 1985). Others have studied the physical characteristics of long term care institutions (Kanaly & Smith, 1982; Moos & Lemke, 1980; and Snyder, 1973). In regards to the social environment, several comprehensive studies have been done in psychiatric treatment, educational and family settings (Moos, 1974; and Lemke & Moos, 1987). Research on the evaluation of the social environment in long term care institutions, however, appears to be in the developmental stages.

On the theoretical level, Lawton (1983) has identified that the social environment is one of five dimensions of the total environment. "The social environment, [is] composed of the major social-institutional, normative, and cultural forces to which the individual is exposed" (p. 352). Moos (1980), in his summary of the literature, has indicated that the social environmental resource is one of four environmental domains which can be used to characterize group living settings and to explore their impacts on the elderly.

Levine and Cook (1987) have identified both psychological aspects of the social environment which consist of cognitive and emotional, and social aspects which consist of how people interact with others within a cultural milieu. The social environment according to Insel and Moos (1974) "represents the personality of the environment" (p. 3). This "personality" gives each environment unity and coherence and may influence the behavior of the people within them (Lemke & Moos, 1987).

The definition of social environment, for the purpose of this

thesis, has been adapted from Kannegeiter (1986). The social environment refers to the interdependency of the elements within a nursing home setting, such as physical structures and space; man-made objects; the residents and staff; and their social interrelationships.

Evaluation Tools

Kannegeiter (1986) has developed a tool for assessing the socio-ecological aspects of the psychiatric clinic environment, entitled the Environmental Assessment Scale (EAS). This scale is a true/false questionnaire which measures environmental characteristics such as overall quality of the environment, organization of the clinic, opportunities for patients to gain independence, autonomy, practical skills, and express empathy and creativity. It was developed from information obtained in a pilot study through interviews with 20 psychiatric patients. In a study to test for reliability and validity, 242 patients participated. She has concluded that the EAS is reliable over time and is moderately correlated to the standardized "Ward Atmosphere Scale" which determines a degree of criterion-related validity. Another study is in progress in order to further cross-validate the EAS with a new sample of clinics.

Nehrke et al. (1984) have developed an empirically derived scale, the Environmental Perception, Preference and Importance Scale (EPPIS) which is meant to evaluate the effectiveness of the care of the elderly in institutions and whether the care improves their psychological well-being and quality of life. This tool assesses 15

dimensions by using a preference and a perception questionnaire which rates responses on a scale from 1 to 5.

Nehrke et al. (1984) have mentioned that a conceptual framework has been developed for the EPPIS and that evidence of the reliability and validity of the instrument across two macroenvironments has been established in a 1981 study. In the recent study by Nehrke et al. (1984), 165 male residents in a New York veterans domiciliary were divided into four microenvironments within their institution. They completed the EPPIS questionnaire and four months later 146 residents were retested.

Test-related reliability across a four month period has shown to be above average with alpha coefficients ranging from low to average (.22 to .64) for the 15 dimensions. In testing for predictability, the authors have used multiple regression techniques using the 15 EPPIS dimensions as predictors and well-being measures (from a morale and a life satisfaction scale) as criterion variables. Significant results have occurred only in the retest data. In testing for differentiation between each microenvironment, Nehrke et al. (1984) have found that only three dimensions evidenced significant differences.

These two tools which attempt to evaluate the social environment appear to be only in the early developmental stages. Kannegieter's tool (1986) has been developed specifically for psychiatric clinics. She has only used a small sample and has had some problems with establishing validity. Although Nehrke et al. (1984) have developed a tool which can be specifically utilized for the institutionalized

elderly and which has related environmental factors to well-being and life satisfaction, they are having difficulty achieving predicatability and differentiation between environments.

The Multiphasic Environmental Assessment Procedure (MEAP), another tool which has been well documented, has been described and utilized by researchers in the literature (Moos, 1974 and 1980; Lemke & Moos, 1980, 1981, 1987; Moos et al., 1979; Moos & Ingra, 1980; Moos & Lemke, 1980, 1984a, 1984b, 1984c, 1984d; Moos, Lemke & Clayton, 1983; David, Moos & Kahn, 1981; Wandersman & Moos, 1981; Billingsley & Batterson, 1986; Thompson & Swisher, 1983; and Schnore & Cyre, 1980).

As this environmental procedure appears to have the greatest potential for empirically evaluating the social environment, it is discussed in more detail in the following section.

2.3.3 The MEAP--An Evaluation Methodology

The Conceptual Framework

Moos (1980) has developed a conceptual framework for evaluating the environment which supports the need-press perspective as well as the view that most environments admit new members selectively and most people select the environments they wish to enter. Personal and environmental systems interact to produce 1) cognitive appraisal, 2) activation or arousal (motivation), and 3) these in turn influence the efforts to adapt (cope) and influence the results of such efforts (outcome).

Moos (1980) has identified four environmental domains in his

conceptual framework: the physical and architectural features, policy and program factors, resident and staff (suprapersonal) factors, and the social environmental features.

This conceptual framework has been utilized by Moos and Lemke (1984d) in their design of the MEAP. The Sheltered Care Environment Scale (SCES) attempts to measure the social environment of a sheltered care facility and is the fourth scale of the MEAP tool. The SCES contrasts with the other three scales in that it utilizes the participants' appraisal of their environment rather than objective information about it (Lemke & Moos, 1987).

The SCES has been developed according to Moos' (1980) conceptualization of the social environment which consists of three domains. Firstly, the relationship dimension assesses the extent to which people are involved in the environment, support one another and express themselves freely and openly. Secondly, the personal growth or goal orientation measures the basic directions in which personal development occurs in the setting. Thirdly, the system maintenance and change dimensions deal with the degree to which the environment is orderly, clear in its expectations and is responsive to change.

It appears that this conceptual framework includes those concepts purported to be most important by most researchers in the literature; that is 1) the environment should be evaluated as a system with multidimensions and 2) the psychological and social elements are important factors to measure when evaluating the quality of the environment.

Development of the SCES

The original version of the SCES consisted of 140 items which were applied to 93 facilities in northern California, specifically, skilled nursing facilities (SNF), residential care facilities and apartment facilities (Moos & Lemke , 1984d; and Lemke & Moos, 1987). The second phase of the project involved applying a 70-item version to a national reference sample of 151 facilities in 20 states. Eventually, a 63-item questionnaire was applied to 93 facilities in northern California and 151 facilities in other regions of the U.S. for a total of 244 facilities. These facilities included 127 nursing homes, 55 residential care facilities and 62 apartment facilities.

The researchers have utilized five criteria to develop the SCES: 1) each item had to have face validity; 2) each item had to discriminate among facilities; 3) each item had to have a reasonable distribution; 4) subscales had to be internally consistent (over .30); and 5) subscales which were conceptually similar and highly intercorrelated were collapsed into one subscale (Moos et al., 1979).

Moos and Lemke (1984d) have produced satisfactory results when using a representative sample of 1041 residents and 792 staff members. Six of the seven SCES subscales have acceptable to high internal consistency, with one having a moderate internal consistency. Split-half reliabilities, which identify that the results are relatively independent of the specific individuals responding, have been calculated as moderate to high. Stability over time (one year) has been tested in 12 facilities and results are moderate to high (correlation coefficient ranges from .52 to .93) for

five subscales but low in two subscales on self-exploration and resident influence.

Lemke and Moos (1987) have presented the SCES normative data in their article. Data have been obtained from 1973 residents and 2042 staff members in nursing homes (NH), from 1261 residents and 366 staff members in residential care facilities, and from 2956 residents and 255 staff members in apartment facilities.

Moos and Igra (1980) have proposed another conceptual framework of the social environment which suggests that physical and architectural, policy and program, resident and staff factors and the type of facility influence the type of social environment in sheltered care settings. In their study, they have concluded that architectural and policy factors account for more of the unique variance in social environments than the type of facility and resident and staff characteristics. They have cautioned readers in three areas. Firstly, there is a need to broaden the search for the most salient influences on the social environment. Secondly, the relationship between architectural, policy and human aggregate characteristics is only strong enough to make effective short term decisions for change in the social environment. Thirdly, their results have underscored the need for the utilization of a comprehensive assessment procedure which gauges the effects of a variety of environmental features as well as their interrelationships.

These developmental studies appear to have demonstrated the potential use of the MEAP, generally and the SCES, specifically, as some authors have used the tool for describing their social

environments and others have attempted to test it within the Canadian context. Other studies will be discussed in the following section.

Studies

Moos, Lemke and Clayton (1983) have provided a general description of each domain of the MEAP. Then, they have contrasted two Skilled Nursing Facilities by depicting graphically the results from the architectural features, policy and programs, suprapersonal and social environment scales. This study provides an example for other researchers on how to utilize the information for decision-making.

Thompson and Swisher (1983) have also used all of the environmental scales of the MEAP in graphic format to describe a residential care centre of 38 elderly and 17 staff members. They have come to two conclusions. The residents in the study facility have a positive perception of their personal environment. The facility's selection process has led to a population with similar characteristics which promotes an harmonious environment.

Billingsley and Batterson (1986) have utilized all dimensions of the MEAP to study nine housing and long term care facilities in northern California. They have found that administrators of these facilities have utilized the profiles to determine which environmental features could: 1) currently be changed to enhance their facilities; 2) be changed in designing future facilities; and 3) be utilized as a basis for discussing facility development, staff development, and resident council requests for changes. In regards

to the SCES specifically, Billingsley and Batterson (1986) have concluded that: 1) the SCES questions are brief, easy to understand, pose no difficulty to the majority of participants, and provide answers which are informative; 2) some results are difficult to interpret in regards to knowing what constitutes a standard, adequate or excessive dimension of the social environment; and 3) the SCES can not stand alone as an evaluation of the social environment but should be supplemented with interviews and staff discussions.

Schnore and Cyr (1980) have attempted to evaluate the SCES for its usefulness in Canada. Participants in the study included 31 staff members and 61 residents from three relatively different long term care facilities in Southern Ontario. The authors have completed statistical analyses on the data, including assessment of internal consistency of each subscale, intercorrelations among the subscales, means and standards deviations. These have been used in a comparison with U.S. norms as provided by the U.S. researchers. They have concluded from their study that: 1) the norms based on the data collected in California are applicable to Canadian facilities; 2) the environmental dimensions have some reliability but this could be improved upon if more satisfactory items are utilized; 3) the environmental dimensions discriminate among facilities; and 4) the SCES is a useful instrument for practical and theoretical research of the determinants of different social climates.

It would appear that those who have utilized the SCES in the field find it to be useful for descriptive purposes, recommend its use, but have some reservations as to the comprehensiveness of the tool when utilized on its own.

2.3.4 Summary

1) Quality in a long term care institution has not been defined clearly in the literature but it appears to be related to psychosocial aspects such as the environment. Many authors have attempted to utilize various indicators to measure quality in long term care institutions, but these studies tend not to define the term "quality", not to define the level of care being measured nor to have any significant conclusions pertaining to effective or consistent indicators of quality.
2) From these studies, in order to determine a "quality" environment, the best methodology would be to utilize a conceptual scheme which incorporates the needs-press theory and a multidimensional approach.
3) Few comprehensive tools have been presented in the recent literature. To date, the MEAP and the SCES appear to be the most well developed tools for the evaluation of the environment in long term care institutions.
4) Some authors have utilized the MEAP, including the SCES, to assess the multiphasic environments of their long term care institutions. Most notable of these studies, is an Ontario study. The researchers, Schnore and Cyr (1980), have recommended, with some hesitation, that the SCES could be used to evaluate the social environment in Canadian long term care institutions.

2.3.5 Conclusions

From the literature, therefore, it would appear that it is

feasible to test the MEAP, in the Alberta context and attempt to evaluate the quality of the social environment in an Edmonton, Alberta nursing home using the SCES instrument.

2.4 Literature Review Summary

The following is a summary of the selective literature review. The review has focused on three key areas: 1) program evaluation; 2) societal contexts of long term care; and 3) relevant research as it relates to the evaluation of social environments in long term care institutions.

The evaluation process guides long term care administrators and planners in empirically assessing their programs. Evaluation is necessary for two reasons:

1) External accountability. Funding, legislative and consumer bodies demand empirical information which will identify that social needs are being met.
2) Internal management. Proactive planning and decision-making requires accurate and updated data which reflects the true situation within the institution.

Methodologies which follow the scientific method provide the means to accurately evaluate a program. As such, the survey research method is an appropriate method for an empirical evaluation of a social program such as a long term care institution. Although surveys are subjective measures, the literature indicates that surveys are the best measure of an individual's perception of a situation and that steps can be taken to ensure the reliability and

validity of the measurement.

Most evaluation processes frequently focus on goal attainment or the success in attaining pre-established objectives. However, long term care programs are social systems which often have ambiguous, multiple and conflicting goals. Administrators and planners of these programs not only must evaluate in terms of specific goals but also on how well their program succeeds in meeting the needs of the external environment and the larger Health Care System.

The current social context for long term care can be summarized as follows:

i. The Canadian government has established that long term care should provide a holistic approach in increasing or maintaining the health and well-being of each individual requiring long term care.

ii. Current societal values identify that any individual needing long term care should receive it and that it should be individualized care.

iii. Canada has one of the highest rates of institutionalization in the world and this is not likely to change in the forseeable future because of several reasons. Current funding incentives center on institutional care which leads to a dearth of community long term care services. There is a tendency in Canada to institutionalize "deviant" groups. There are frequent problems in the area of improper diagnoses and referral to institutional care.

iv. The current values in the health and institutional care system are based on curing the sick, not caring for the chronically ill.

Demographic characteristics are changing in Canada and Alberta to the extent that the old-old (over 85 years) population, single older women and those living alone are increasing in numbers. These groups eventually will require institutional care and, thus, the expansion of long term care institutions is assured.

As societal values change, there will be rising expectations from demanding consumers for quality health care which emphasizes individualized, holistic care.

A larger share of the nation's service budget will eventually be directed at the long term care system. However, administrators and planners will be required to convince society that they are meeting the demands if they are to receive fair share of the total economic resources to fund their long term care institutions. This "convincing" is in terms of proving to society and the consumer that long term care institutions are consistently meeting the goals of "well-being", and "quality of care".

Establishing criteria for measuring these goals is a difficult task. The literature abounds with studies which have attempted to determine what constitutes quality and quality of care. These studies, however, tend not to define quality specifically, not to define the level of care being provided and not to utilize consistent quality indicators.

Few studies definitively link a "quality" social environment to the well-being of residents or to the quality of care in long term care institutions. Several authors, however, have theorized that matching personal and environmental characteristics will increase the

satisfaction level of residents in a long term care institution. The literature identifies the need to evaluate the social environment in long term care facilities but does not clearly define the criteria for a "quality" social environment.

The Multiphasic Environmental Assessment Procedure (MEAP) has been developed by Moos and Lemke (1984d). This satisfaction measurement tool attempts to survey the various dimensions of the social environment in long term care institutions. The U.S. researchers have claimed that this tool is reliable and valid for use in the United States. Only one study has been found which has tested the MEAP in Canada. A research team in Southern Ontario has recommended, with some hesitation, its use in Canadian long term care institutions.

The literature review provides a theoretical basis for attempting to evaluate the social environment of a nursing home in Edmonton and testing the MEAP for use in the province of Alberta.

CHAPTER III

RESEARCH METHODOLOGY

The primary purpose of this study is to establish and utilize an empirical evaluation methodology to assess the quality of the social environment in long term care institutions.

A research process has been employed to achieve this purpose and associated study objectives and is discussed in the following three sections: 1) research strategy; 2) data sources; and 3) data analysis strategies.

3.1 Research Strategy

The overall strategy of this research has incorporated an exploratory, descriptive, cross-sectional, comparative approach for the following reasons:

1) one intent of the study is to utilize the MEAP methodology and interpret the data acquired from the entire population of one nursing home, therefore, this precludes the need to draw inferences regarding the population based on sample statistics;
2) the literature review has revealed no theoretical foundation for the development of hypotheses required for a confirmatory approach;
3) the objectives of the study which are directed towards: i) the establishment of an empirical methodology; and ii) the analysis of survey and baseline data are primarily descriptive and analytical in nature;

4) as one of the objectives is to establish and utilize a methodology and interpret the survey data, data collected at one point in time is adequate to achieve this objective; and
5) the literature review has revealed the potential for subject backlash and loss of subjects to study if a longitudinal study is undertaken in a long term care institution. A longitudinal study, although beyond the scope of this thesis, is still needed. This present study could provide the basis for a future longitudinal, prospective study.

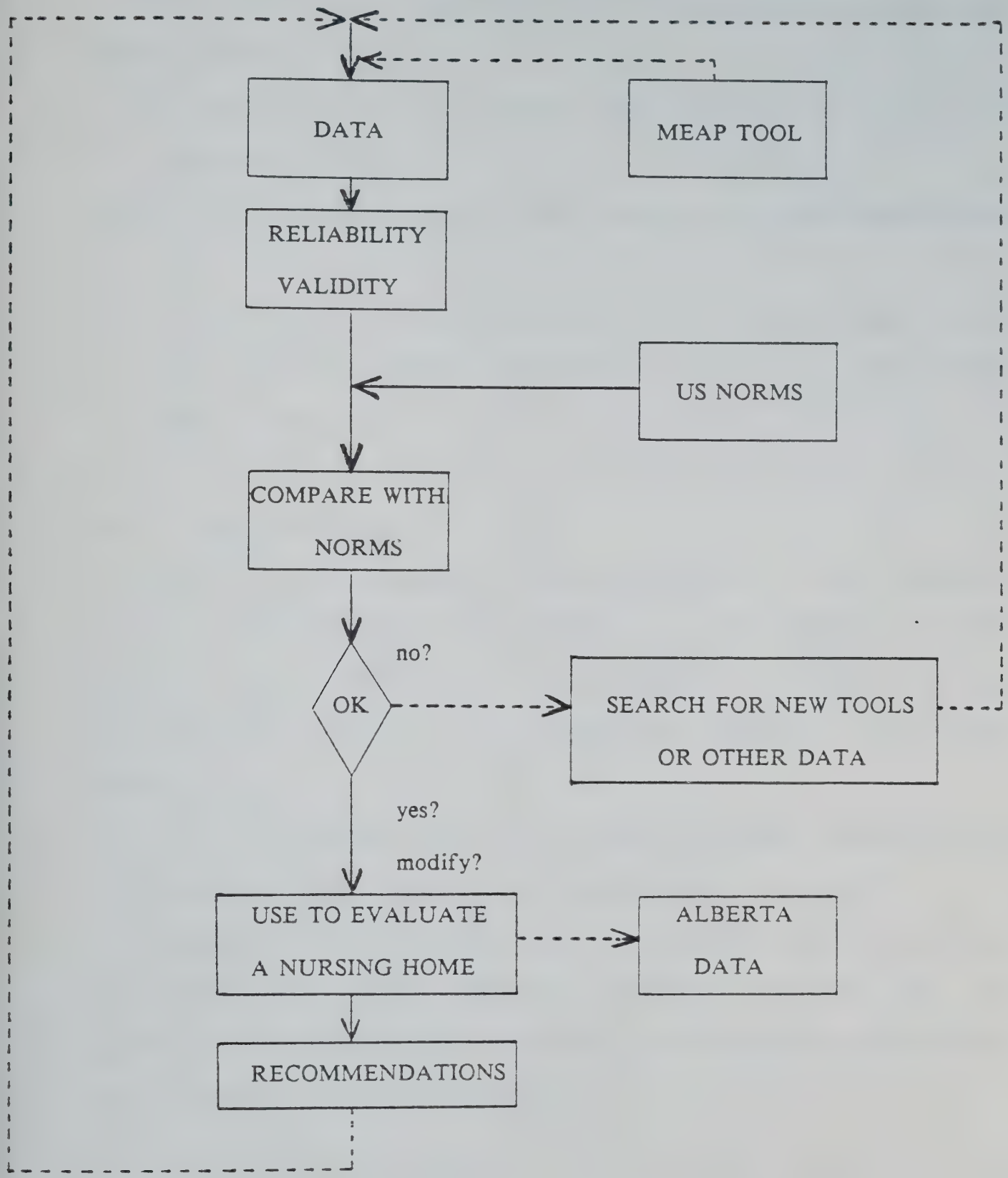
The specific sequence of the research methodology is illustrated schematically in Figure I. This study is undertaken to evaluate the MEAP methodology and subsequently interpret the data which had been collected on the social environment in an Edmonton nursing home. It not only involves the collection of Alberta data but also involves the comparison of this data to U.S. normative data. The solid lines in Figure I identify the scope of this thesis, the broken lines the additional methodology required for future research.

3.2 Data Sources

In this study, the evaluation of the social environment has been investigated using a survey approach. The questionnaire utilized, the Sheltered Care Environment Scale (SCES), is one scale of four independent scales comprising the Multiphasic Environmental Assessment Procedure (Moos and Lemke, 1984a). The SCES consists of 63 yes/no type questions which assess resident and staff perceptions of their social environment and is attached in Appendix A.1.

Figure I

Sequence of research methodology



------- METHOD

_____ THESIS IMPLEMENTATION

Data required to operationalize the research strategy come from three sources:

1) a study population of 225 nursing home residents in the city of Edmonton, Alberta;
2) a study population of 175 staff working in the same nursing home; and
3) a sample of 1873 residents and 2042 staff in nursing homes in the U.S. and data which are in summarized format in the "MEAP Manual" (Moos & Lemke, 1984d).

3.2.1 Data Collection

Prior to the distribution of the questionnaire, a data collector with a sociology background utilized the "MEAP Handbook for Users" (Moos & Lemke, 1984b) and trained himself to administer the questionnaire according to a standardized procedure (Moos & Lemke, 1984c).

Staff and residents were informed about the survey process during an orientation session prior to the commencement of the survey.

Exclusion criteria established that residents with a history of cognitive and/or mental impairment would be excluded from the survey. The head nurses responsible for the care of each resident were consulted for this information.

Residents

The resident was informed of the right to confidentiality and of the right to refuse to answer questions without fear of a penalty

being incurred. Each questionnaire was coded by a third party so that the respondent could not be identified by this investigator or by administration.

The data collector interviewed seventy residents (thirty-one percent of the total resident population) and used the SCES answer sheet to complete each questionnaire. This is attached in Appendix A.2. Two responses were not usable because there were more than 10 unanswered questions and this meant that 68 responses were utilized for analysis. The remaining one hundred fifty-five residents (sixty-nine percent) were excluded according to established criteria.

Staff

Staff members who were on duty during the study period were asked to volunteer to complete the questionnaire independently.

Staff members were informed of their right to confidentiality and the right to refuse to answer questions without fear of penalty being incurred. Identifiable information was not coded for this data in order to protect the identity of the respondent.

Eighty-four staff members (forty-eight percent of the total complement of staff members) completed the questionnaire. The remaining fifty-two percent either did not volunteer to take part in the survey or were unavailable at the time of the survey.

U.S. Normative Data

The preliminary version of the MEAP was constructed using data obtained from a sample of sheltered care facilities in northern

California. The revised version of the MEAP, used for this study, was constructed using a U.S. national reference group sample composed of 151 facilities in 20 states. It was tested for meaningfulness, applicability, subscale independence, item discrimination, and item interrelatedness (Moos & Lemke, 1984d).

The researchers have facilitated direct comparisons of the MEAP raw scores by presenting the normative data as percentage scores. These are presented in the "MEAP Manual" (Moos & Lemke, 1984d) and have been utilized by this investigator for comparative analyses.

3.3 Data Analysis Strategies

The analyses of the data have been conducted in four steps: 1) reliability testing; 2) validity assessment; 3) comparison with U.S. normative data; and 4) descriptive analyses.

3.3.1 Reliability

Internal consistency, which is concerned with consistency among items measuring the same attribute (Stewart, 1987) has been used to determine the reliability of the SCES questionnaire. In raw data form, the questionnaire consists of 63 yes/no type questions. There are 7 subscales and each subscale consists of 9 items. The 9 items in each subscale produce the same interpretive results if internal consistency (reliability) is high.

An alpha coefficient (Cronbach, 1951) has been computed on the data collected to determine the internal consistency of each of the subscales; those of cohesion, conflict, independence,

self-exploration, organization, resident influence, and physical comfort.

3.3.2 Validity

Construct validity, considered to be one of the most convincing validation measures (Bauman, 1980), has been examined by: 1) interpreting intercorrelations among subscales; and 2) using factor analysis.

Subscales for both resident and staff data have been correlated to each other. If results indicate that intercorrelations are low, the subscales can be interpreted as measuring separate constructs (Kerlinger, 1986).

Factor analysis has been used to search for clustering patterns among the 63 items. Three steps have been employed to obtain the solution to this exploratory factor analysis: 1) an appropriate correlation matrix has been prepared; 2) seven initial factors have been extracted using incomplete principal component analysis; and 3) an orthogonal solution using varimax rotation has been obtained (Kim, 1979) in order to enhance interpretability of the factors.

Those questions measuring the same underlying construct (subscale) tend to be correlated and show up in the factor solution as loadings on the same factor. If the factors as predetermined by the MEAP researchers are confirmed in the results of the factor analysis then this may lead to the conclusion that the Edmonton data have a measure of construct validity.

3.3.3 Comparison with U.S. Normative Data

Mean percentage scores for each subscale have been calculated from the Edmonton raw data and the following comparisons have been made:

1) means and standard deviations of resident and staff data with U.S. norms;
2) facility and demographic characteristics of resident and staff data with U.S. norms.

Z-scores have also been calculated for the present nursing home study means and the Ontario study means in order to determine whether or not the Edmonton sample and Ontario sample are similar to the U.S. populations as studied by the U.S. researchers.

3.3.4 Descriptive Analyses

A description of the respondents has been done using demographic variables and cross-tabulation analyses have been carried out.

Also, the institutional profile has been described after plotting resident and staff data on two graphs. The first graphical representation compares resident with staff scores after the data have been standardized. The second graphical representation compares the actual mean percentages of the staff data with the actual mean percentages of the resident data.

3.4 Summary of Research Methodology

In order to achieve the purpose and objectives of this study, a research strategy has been detailed in this chapter.

The strategy taken has been that of an exploratory, descriptive, cross-sectional, comparative survey entailing two study populations: the residents and staff members of an Edmonton, Alberta nursing home. The 63 item questionnaire utilized was the Sheltered Care Environment Scale, one of four scales comprising the MEAP.

The data analyses have included: 1) reliability testing using an alpha coefficient; 2) validity assessment using intercorrelations among subscales and factor analyses; 3) a comparative analysis of Edmonton data with U.S. data; and 4) descriptive analyses using cross-tabulations and graphical representations.

The analyses and discussion on the interpretation of the results are presented in the next chapter.

CHAPTER IV

RESULTS AND DISCUSSION

Results from the analyses of the data collected in an Edmonton, Alberta nursing home (NH) using the Sheltered Care Environment Scale (SCES) are presented in four sections: 1) reliability testing; 2) validity assessment; 3) comparison of the present NH study data with the U.S. normative data and Ontario study data; and 4) descriptive analyses using demographic variables, cross-tabulations and graphic representations.

4.1 Reliability Testing

In order to test for reliability of the data collected in the nursing home, the internal consistencies for each of the seven subscales for both residents and staff have been calculated and compared to the U.S. normative data. The subscale internal consistencies, as measured by Cronbach's alpha, for the present NH study and the U.S. normative study are presented in Table I.

Analysis of the resident data identifies that the internal consistency for the Organizational subscale is higher than the U.S. norms, internal consistencies for the Conflict and Resident Influence subscales are the same as the U.S. norms, and the other subscale internal consistencies, namely, Cohesion, Independence, Self-Exploration, and Physical Comfort, are lower than the U.S. norms.

For staff data, the internal consistency for the Conflict subscale is similar to the U.S. norms, and the internal consistencies for the other subscales are lower than the U.S. norms.

Table I. A comparison of the SCES subscale internal consistencies of the residents and staff in an Edmonton nursing home with U.S. norms

Dimension	Nursing Home Data		U.S. Norms	
	Residents	Staff	Residents	Staff
1. Cohesion	.40	.56	.65	.73
2. Conflict	.75	.75	.76	.76
3. Independence	.36	.52	.60	.69
4. Self-Exploration	.53	.55	.59	.68
5. Organization	.73	.61	.66	.74
6. Resident Influence	.55	.36	.44	.56
7. Physical Comfort	.58	.46	.76	.79
Mean	.54	.54	.64	.71
Range	.36-.75	.36-.72	.44-.76	.56-.79

The resident internal consistencies tend to be higher than the Ontario results presented by Schnore and Cyr (1980) and the staff internal consistencies tend to be similar.

Three subscale internal consistencies round off to .40 for resident data, and one subscale internal consistency rounds off to .40 for staff data. Lemke and Moos (1987) have identified that scores around .40 are moderate. As some dimensions tap a variety of facility features and provide a broad coverage, a moderate level of internal consistency is acceptable for some subscales (Lemke & Moos, 1987).

A comparison of resident to staff subscale internal consistencies identifies that the means are identical (.54) and the range of scores are similar (.36 - .75 for resident data; .36 - .72 for staff data).

Findings

These results appear to indicate the following:

1) Although some subscale internal consistencies are lower, the overall NH internal consistencies tend to be similar to U.S. normative results.
2) Items in each subscale are empirically related to each other by a moderate to high degree.
3) Resident and staff internal consistencies on average are the same.

4.2 Validity Assessment

In attempting to ascertain construct validity of the SCES, this investigator has utilized: 1) a comparison of intercorrelations among

subscales for the present study with the U.S. study; and 2) factor analysis on the data collected.

4.2.1 Subscale Intercorrelations

The intercorrelations among the seven subscales for residents and staff in the present NH study and the corresponding intercorrelations for the U.S. normative study are presented in Tables II and III. The intercorrelations tend to be lower in the present study than those from the normative study for both residents and staff. The average subscale correlations for residents (.20) and staff (.24) are lower than the U.S. averages for residents (.28) and staff (.26). The lower the correlation, the more supportive of the construct that there exists 7 separate dimensions.

The majority of intercorrelations are less than .50 in the present study. There are no subscale intercorrelations which are moderate (defined by Lemke and Moos, 1987 as over .50) for staff and only 3 subscales for residents. U.S. normative data demonstrate intercorrelations that are greater than .50 for residents in 3 subscales and for staff in 4 subscales.

Findings

These results appear to indicate the following:

1) The NH resident and staff intercorrelations identify that the SCES dimensions have tapped seven separate but slightly interrelated aspects of the social environment of the institution. These results tend to be more discriminating than the U.S. results.

Table II. Comparison of the intercorrelations among the subscales for the residents of the present nursing home study and the U.S. normative study

Dimension	1	2	3	4	5	6	7
1. Cohesion	-	-.15	.11	.09	.35	.01	.33
2. Conflict	-.37	-	.04	.54	-.52	.03	-.48
3. Independence	.44	-.13	-	.05	.01	.17	-.14
4. Self-Exploration	-.12	.48	.04	-	-.21	.22	-.14
5. Organization	.52	-.51	.25	.28	-	.10	.52
6. Resident Influence	.21	.04	.22	.12	.08	-	.01
7. Physical Comfort	.48	-.47	.25	-.26	.58	.10	-

Note: Correlations above the diagonal are for residents of an Edmonton nursing home (N=68). Those below the diagonal are for a representative sample of residents from U.S. normative data (N=1085), Lemke & Moos (1987).

Table III. Comparison of the intercorrelations among the subscales for the staff of the present nursing home study and the U.S. normative study

Dimension	1	2	3	4	5	6	7
1. Cohesion	-	-.35	.25	.06	.39	.05	.38
2. Conflict	-.28	-	.07	.43	-.47	.14	-.47
3. Independence	.50	-.21	-	.15	.18	.02	.29
4. Self-Exploration	.13	.35	.10	-	-.22	-.04	-.06
5. Organization	.59	-.45	.35	-.03	-	-.04	.42
6. Resident Influence	.11	.07	.17	.18	.05	-	.05
7. Physical Comfort	.52	-.46	.33	-.04	.57	.01	-

Note: Correlations above the diagonal are for staff of an Edmonton nursing home (N=84). Those below the diagonal are for a representative sample of staff from U.S. normative data (N=826), Lemke & Moos (1987).

2) The pattern of correlation is similar to those of the U.S. normative study for resident data, and less similar for staff data.

4.2.2 Factor Analysis

The method utilized by the U.S. researchers to determine the number of subscales and the content of the subscales has not been clearly described in the available literature. As factor analysis is a method frequently used to determine underlying constructs, it has been utilized in this study to determine if the Edmonton data estimates the same underlying constructs as the normative data.

A factor analysis has been done using incomplete principal component analysis for factor extraction on the 63 items from the SCES questionnaire, for both residents and staff, and orthogonal solutions using varimax rotation have been derived. In addition, solutions based on oblique rotation of the data using the SPSSx (1983) "oblimin" command were attempted. These solutions, however, did not provide any better interpretations or factor matchings.

The data have been forced into a 7 factor solution to correspond with the U.S. researchers' designation of the 63 items into 7 subscales. The seven factors extracted explain 41.6% of the variance of the 63 items for the resident data and 37.3% of the variance for the staff data.

The 7 factor orthogonal solutions for residents and staff are presented in Appendix B.1 and B.2, respectively. A listing of the items which have a moderate to high factor loading (.40 and over) on

each factor for residents and staff are presented in Appendix B.3 and B.4, respectively.

Each factor, extracted from resident and staff data, has been interpreted and assigned one SCES subscale name. The factor had to be comprised of a majority of items from a subscale in order to be labelled that subscale's name.

Factor labels and correlation matrices comparing subscales to factor scores for residents and staff are presented in Tables IV and V, respectively.

On analysis of the resident data, Factor A, Organization, correlates highly (.84) with the Organization subscale but also correlates quite highly with the Conflict and Physical Comfort subscales. This suggests that the organizational dimension may be associated with the physical dimension as well as the psychological well-being dimension which has been measured by the amount of conflict in the environment. Factor B, Cohesion, correlates moderately with the Cohesion subscale (.47) as well as the Independence subscale which suggests that a supportive environment may be associated with an environment that also encourages independence. Factor D, Resident Influence, correlates moderately with the Resident Influence Subscale (.49) as well as the Independence subscale which might indicate that the independence of the residents is related to their ability to influence their environment. Factor F, Conflict, has little correlation with the Conflict subscale (.22) but fairly high correlation with the Resident Influence subscale. This indicates that there may be some difficulty

Table IV. Correlation matrix comparing subscales with extracted factors for resident data

	A	B	C	D	E	F	G
1. Cohesion	-.34	**.47**	.10	.04	.14	.07	.02
2. Conflict	**.76**	.10	.29	-.04	-.31	.22	.17
3. Independence	-.22	**.49**	-.12	.35	.17	-.07	-.08
4. Self-Exploration	.33	.14	**.71**	.09	.02	.39	.10
5. Organization	**.84**	.19	-.03	.19	.03	.07	.18
6. Resident Influence	-.01	-.16	-.07	**.49**	.05	**.61**	.26
7. Physical Comfort	**.61**	.12	-.16	-.32	**.45**	.29	.10

Factor Labels:
- A - Organization
- B - Cohesion
- C - Self-Exploration
- D - Resident Influence
- E - Physical Comfort
- F - Conflict
- G - Independence

Note: Matched subscale to factor correlations and moderate to high correlations are in bold print.

Table V. Correlation matrix comparing subscales with extracted factors for staff data

	A	B	C	D	E	F	G
1. Cohesion	**.58**	**.35**	-.12	.02	-.02	.24	.32
2. Conflict	-.39	-.26	**.58**	-.44	.27	-.04	.02
3. Independence	.23	-.06	.05	.27	.27	**.33**	**.49**
4. Self-Exploration	-.29	-.06	.34	-.15	**.52**	**.31**	.28
5. Organization	.34	.11	-.05	**.50**	-.47	**.37**	.13
6. Resident Influence	**.45**	-.09	**.40**	-.22	.02	.14	-.26
7. Physical Comfort	.18	**.59**	-.26	.26	-.02	**.33**	.25

Factor Labels:
- A - Resident Influence
- B - Cohesion
- C - Conflict
- D - Organization
- E - Self-Exploration
- F - Physical Comfort
- G - Independence

Note: Matched subscale to factor correlations and moderate to high correlations are in bold print.

with the construct of conflict as measured by the subscale. Two factors, Factor C, Self-Exploration, and Factor E, Physical Comfort, correlate well with their corresponding subscales only. One subscale, Factor G, Independence, does not correlate well with any of the subscales which suggests that there may be some weakness in the 7 factor construct. Because all factors have slight to moderate correlations with other subscales, even though five of the seven factors have moderate to high correlations with their corresponding subscales, the results do not present a clear understanding of the underlying constructs of the Edmonton data.

On analysis of staff data, six of seven factors correlate with more than one subscale. Factor A, Resident Influence, correlates moderately (.45) with the Resident Influence subscale as well as the Cohesion subscale which suggests that a supportive environment may have an effect on the amount of influence residents have on their environment. Factor B, Cohesion, correlates moderately with its corresponding subscale (.35) but also fairly high with the Physical Comfort subscale. From this, it appears that physical comfort could be associated with the perception of a supportive environment. Factor C, Conflict, correlates well (.58) with the Conflict subscale and moderately with the Resident Influence subscale. This indicates that residents' abilities to change rules and policies of the institution could have some effect on the perception of conflict in the environment. Factor D, Organization, correlates fairly high (.50) with the Organization subscale as well as the Conflict subscale which may indicate, like the results from the resident data, that the

organizational structure may be associated with the perception of the amount of conflict in the environment. Factor E, Self-Exploration, correlates fairly high (.52) with the Self-Exploration subscale as well as the Organization subscale. This suggests that the type of structure, the strictness of rules and regulations, and level of order in the environment might impact on the ability of residents to openly express their feelings. There is only slight correlation (.33) between Factor F, Physical Comfort, and its corresponding subscale as well as the Independence and Organization subscales. As in the resident data, a low correlation with all subscales indicates some difficulty with the 7 factor construct as presented by the U.S. researchers. Only the final factor, Factor G, Independence, correlates moderately (.49) to only one subscale, the Independence subscale. Again, these results appear to be vague and do not present a clear pattern of the underlying constructs of the Edmonton data.

It can also be noted from this discussion that items in each of the factors of the resident data do not correspond to the items in each of the factors of the staff data. One could expect that the results between residents and staff should be similar in order to prove that the underlying constructs are the same as presented by the U.S. researchers.

Findings

The factor analysis method for clustering the 63 item questionnaire into 7 subscales has produced a relatively moderate explanation of variation for both resident and staff data. In addition, although some correlation exists between extracted factors

and subscales, the evidence is not sufficient to conclude that the Edmonton data has the same underlying constructs as the SCES. This does not necessarily mean that the Edmonton data does not have construct validity. Rather, these results may suggest that there are questions as to whether or not the original instrument was originally tested using an empirical psychometric methodology such as factor analysis.

4.3 Comparisons with U.S. Data

Individual raw scores have been converted to averages by using only valid responses in each subscale. For example, if a respondent has only answered 6 of the 9 items, the average has been determined by dividing the total raw score for that subscale by 6. These averages have then been multiplied by 100 to compute percentages and an overall mean percentage score has been calculated for each subscale.

In addition, the sample means from the present study and the Ontario study (Schnore & Cyre, 1980) have been converted to Z-scores by using the means and standard deviations of the U.S. normative data. These results are presented in order to determine: 1) whether or not the present sample may be considered a random sample of the U.S. population; and 2) if there is any difference between the two data sets.

Means, standard deviations and Z-test results for residents and staff are compared to the U.S. normative results and the Ontario study results and these are reported in Tables VI and VII

respectively.

On examining these results, it can be noted that three of seven subscale mean percentages for residents are significantly different from the U.S. norms at an α=0.05 level. This is indicated by Z-test scores which are greater than +1.96 or less than -1.96. All of the staff subscale mean percentages are significantly different from the U.S. norms. These results concur with the Ontario study results. Means from the Ontario study are significantly different in five of seven scores for residents and four of seven scores for staff.

In addition, the resident and staff data demonstrate standard deviations which are approximately double those of the U.S. norms. This is indicative that the Edmonton sample is more variable than the U.S. population.

Findings

These results appear to indicate the following:

1) Although four of seven mean percentages are similar to the U.S. norms, it is more likely that this sample of 68 residents can not be considered as a random sample from the U.S. population as studied by the U.S. researchers. In other words, the sample of residents in the present NH study is different from the U.S. population of residents.
2) The sample of 84 staff members can not be regarded as a random sample from the U.S. population of staff members as studies by the U.S. researchers. In other words, the staff of the present NH study, have a different perception of their NH environment than their U.S. counterparts.

Table VI. Means, standard deviations (SD) and Z-test results of the SCES subscales for residents in an Edmonton nursing home (NH) compared with the U.S. normative study and Ontario (Ont.) study results

SUBSCALE	RESIDENTS						
	NH (n=68)			U.S. NORMS (N=1973)		ONT. (n=61)	
	MEAN*	SD	Z-TEST	MEAN	SD	MEAN	Z-TEST
1. Cohesion	62	19	- .30	62	12	60	-1.33
2. Conflict	42	28	2.85	37	13	36	-0.59
3. Independence	54	19	5.73	47	10	53	4.62
4. Self-Exploration	32	21	-1.33	34	10	27	-5.38
5. Organization	59	27	-4.02	64	10	70	4.62
6. Res. Influence	45	21	1.53	43	10	34	-6.92
7. Physical Comfort	75	20	- .07	75	10	71	-3.08

*Note: Scores indicate average percent of items answered in the scored direction.

**Note: The following formula has been utilized to determine the Z-test scores:

$Z \text{ obtained} = (\bar{X}-\mu)/(\sigma/\sqrt{n})$

where, $\bar{X}$ = mean of the NH or Ontario subscale
μ = mean of normative subscale
σ = standard deviation of the normative subscale
n = total number of participants in NH or Ontario study

Table VII. Means, standard deviations (SD) and Z-test results of the SCES subscales for staff in an Edmonton nursing home (NH) compared with the U.S. normative study and Ontario (Ont.) study results

SUBSCALE	STAFF							
	NH (N=68)			U.S. NORMS (N=2042)		ONT. (N=31)	
	MEAN*	SD	Z-TEST**	MEAN	SD	MEAN	Z-TEST
1. Cohesion	60	21	- 4.56	69	11	61	-4.08
2. Conflict	74	24	7.31	64	12	62	-0.95
3. Independence	50	20	- 3.46	53	9	59	3.75
4. Self-Exploration	55	22	- 7.66	63	10	51	-6.67
5. Organization	47	22	-10.22	60	12	60	0
6. Res. Influence	65	18	5.45	60	9	58	-1.25
7. Physical Comfort	50	19	-12.88	67	12	60	-3.33

*Note: Scores indicate average percent of items answered in scored direction.

**Note: The following formula has been utilized to determine the Z-test scores:

$$Z \text{ obtained} = (\bar{X}-\mu)/(\sigma/\sqrt{n})$$

where, $\bar{X}$ = mean of the NH or Ontario subscale
μ = mean of normative subscale
σ = standard deviation of the normative subscale
n = total number of participants in NH or Ontario study

3) Because the present study results are similar to the Ontario study results, it is reasonable to assume, at least in part, that differences in means may be due to differences in the U.S. and Canadian social contexts and health care systems.

4.4 Descriptive Analyses

The descriptive analyses will be presented in three sections: 1) description of the demographics of the respondents and a comparison with U.S. normative data; 2) analysis of cross-tabulation results; and 3) a description of the nursing home profile using graphic representations.

4.4.1 Demographic Variables

A breakdown of the demographic information is presented in Table VIII. There were 225 residents and 175 staff in the nursing home during May 1986.

Of the 225 residents, 70 residents who were assessed as being mentally and cognitively capable of completing the SCES questionnaire were interviewed. Two responses were not used as there were more than 10 incomplete questions. Of the 68 who completed the questionnaire, 47 (69%) were female and 21 (31%) were male. The majority of resident respondents were 75 years of age and older (65%). Also, a majority of residents had lived in the nursing home for over 2 years (56%), an adjustment period which would allow residents to develop a comprehensive judgment of their social environment.

Table VIII. Demographics of the respondents

Resident Variables		Percent	Staff Variables		Percent
1. Sex	Male	30.9	1. Sex	Male	15.5
	Female	69.1		Female	84.5
2. Age	under 65	18.8	2. Length	under 2	38.1
(years)	65-74	17.2	on job	2-6	33.3
	75-84	28.1	(years)	over 6	28.6
	85+	35.9			
3. Length	under 2	44.1	3. Position	Nursing	82.1
of stay	2-6	42.6		Recreation	10.7
(years)	over 6	13.2		Other	7.1

Eighty-four of the staff were available and volunteered to complete the questionnaire. Of these 84, 71 (84%) were female and 13 (16%) were males. The majority of staff respondents were from the nursing department (82%) and had worked in the nursing home over 2 years (62%).

There is reasonable representation of the respondents in all categories for each variable except for the following: "sex" for residents and staff, and "position" for staff. The ratio of females to males is approximately 2:1 for residents and 7:1 for staff. The ratio of nursing staff to other staff is approximately 4:1. These figures, however, are representative of current institutional and staffing patterns in Alberta. It is also interesting to note that the higher percentage of those residing in the nursing home are over 85 years of age and this corresponds to the trend which shows a greater rate of institutionalization for those in this age group.

A comparison of the NH facility and respondent characteristics with the U.S. normative data is presented in Table IX. Generally, the characteristics of the Alberta nursing home and respondents have higher numerical values than the U.S. study means from 127 nursing homes. This could indicate that the health status or acuity levels are different between Alberta residents and U.S. residents. For example, the higher ratio of staff in the Alberta NH could indicate that residents require a higher level of care. As noted in the literature (Singer, 1977), perceptions may vary according to feelings of well-being and this would reduce objectivity.

Table IX. A comparison of the present study's facility characteristics and respondent demographics with U.S. normative data

	NURSING HOME Actual	U.S. NORMS** Mean	SD
Facility			
Size (no. of residents)	225	107	60
Age of building (years)	13	14	12
Staff*			
No. per 100 residents	78	71	17
Percentage employed over 1 yr.	76	54	23
Residents*			
Average age (years)	78	78	5
Women (percentage)	69	67	17
Percentage in NH over 1 yr.	80	60	22

*Note: These figures correspond to the demographics of those who responded only.

**Note: These figures correspond to the means from 127 nursing homes tested by Lemke and Moos (1987).

The size of the NH in the present study is 118 residents more than the U.S. mean. This may also have implications for the perception of the social environment. For example, large nursing homes may have more physical amenities and staff available. This could lead to a more positive perception of physical comfort. Alternatively, larger facilities might encourage "distancing" among cohabitants and could lead to a more negative perception of cohesion.

The staff ratio is 78 per 100 residents as compared to the U.S. mean of 71. Residents may perceive that a higher ratio of staff could lead to a more supportive environment. On the other hand, a greater number of staff could do more for the residents and reduce resident independence.

The percentage of staff employed over 1 year is 76 as compared to 54 in the U.S. study while the percentage of residents living in the NH over 1 year is 80 as compared to the U.S. mean of 60. These figures may indicate that the Alberta respondents, because of longer periods of stay, could have reached conclusions based on more experience and knowledge of their environment.

The average age of the resident respondents is 78 years which is identical to the U.S. data. It is interesting to note, however, that the range of ages of the resident respondents in the NH are from 30-94 years. This could lead to a high variation in perceptions of the social environment.

Findings

These results appear to indicate the following:

1) A representative sample of resident and staff respondents have completed the SCES questionnaire.

2) Nursing home characteristics and respondent demographics appear to be different than the average characteristics and demographics from the U.S. normative study. Perceptions of the social environment could be influenced by these differences and some speculations are offered.

   i The level of acuity in the Alberta nursing home may be different than that in the U.S. nursing homes and this could affect the respondents' ability to evaluate objectively.

   ii The larger size of the Alberta NH and the higher staff ratio could have both a positive and a negative affect on perceptions depending on individual needs.

   iii Variations in length of stay could affect the level of knowledge and experience used by the respondents to evaluate the environment.

4.4.2 Cross-Tabulation Results

Frequency tables are presented in Appendices C.1 through C.7 which summarize the data generated by the residents and staff of the Edmonton NH. Results are discussed according to each subscale in the following section.

Cohesion

This subscale measures how helpful and supportive staff members are towards residents and how involved and supportive residents are

with each other. A majority of residents and staff have answered the majority of the cohesion questions in a positive direction.

One question (Question 50), however, has been answered negatively by both sets of respondents. Approximately two thirds of the residents and staff agree that residents tend to keep to themselves. Although the U.S. researchers might interpret these results as negative perceptions of cohesion, it is possible to interpret these results as positive depending on the needs of the individual. This calls into question the validity of this particular item in measuring cohesion accurately.

Two questions, on the other hand, identify opposite viewpoints. For Question 8, 75% of the staff identify that staff do spend time with residents, but a majority of residents (53%) disagree with this viewpoint. For Question 43, only 24% of the residents believe they are criticized by staff for minor things, whereas 57% of the staff believe otherwise.

Conflict

This subscale measures the extent to which residents express anger and are critical of each other and of the facility.

It is interesting to note that 6 of 9 questions in this subscale have been answered with opposing viewpoints. Residents tend to be more positive than staff.

The majority of residents believe that residents do not start arguments (Question 23, 53%), residents do not criticize the nursing home (Question 16, 62%), residents keep disagreements to themselves

(Question 23, 72%), residents believe it is always peaceful and quiet (Question 37, 75%), residents do not get impatient with each other (Question 44, 57%) and residents do not complain a lot (Question 51, 63%).

In contrast to these results, staff perceive that there is much more conflict in the nursing home and this is noted by the high percentages of staff who have responded negatively to the above mentioned questions. A contributing factor may be that at the time of the study, several organizational changes were in process. The resulting uncertainties from organizational changes could have influenced staff to perceive more conflict. Alternatively, because there was a high percentage of nonprofessional staff respondents, results may reflect a lack of experience or knowledge in assessing conflict. Also, staff may assess conflict using different criteria than those of the residents. One final possibility is that negative stereotyping of the elderly has influenced the perceptions of younger staff members.

Independence

This subscale evaluates how self-sufficient residents are encouraged to be in their personal affairs and how much responsibility and self-direction they are encouraged to exercise. The majority of residents and staff tend to agree on the questions in this subscale.

Questions 3 and 10 ask whether residents are dependent on staff to suggest and/or set up activities. The majority of resident and

staff respondents agree that residents are dependent in these areas. There is strong agreement (82% of residents; 82% of staff), however, that residents are encouraged to make their own decisions (Question 38) which indicates a perception of a more independent environment.

Some ambiguity exists for residents when answering Question 52. Half the residents agree that residents care more about the past than the future, but the other half disagree. Staff (74%) agree with the former opinion.

There may have been problems in understanding the questions for this subscale because several other questions have been answered in a similar fashion. There is a split decision, that is, 50% have taken a positive view and 50% have taken a negative view, in three other questions (Question 42 for both residents and staff, Question 45 for residents and Question 59 for staff). In addition, seven of nine questions have several "no answer" responses.

It is interesting to note that several of the questions in this subscale have qualifiers in the sentence structures, such as "usually", "many", "strongly", and "really". Also, three of the nine questions are scored in a negative direction. Respondents may have been confused by the semantics and this might have elicited the ambiguous responses.

Self-Exploration

This subscale measures the extent to which the environment encourages residents to express and openly discuss their feelings.

Eighty-seven percent of the resident respondents feel that

residents do not talk a lot about their fears and 55% of the staff respondents are in agreement (Question 25). Other questions have elicited similar negative responses from both residents and staff. A majority agree that residents do not talk about their money problems (Question 52, 85% of residents 70% of staff) and that residents keep their personal problems to themselves (Question 60, 82% of residents, 56% of staff).

Residents have elicited two additional negative responses. The majority of resident respondents believe that residents do not talk about their past dreams and ambitions (Question 39, 60%) nor do residents ever talk about illness and death (72%). Staff, however, take the opposite viewpoint and are more positive in assessing the residents' self-exploration under these two questions.

A difference in generational values may be evident from these results, however, residents also might have difficulty evaluating this aspect of the social environment from an objective and global perspective.

Organization

This subscale assesses how important order and organization is in the facility, the extent to which residents know what to expect in their day-to-day routine, and how explicit the rules are.

Staff members tend to be more negative in answering these questions than the residents. Again, the increased uncertainty from organizational changes may have influenced staff to respond negatively. Staff members believe that some residents look messy

(Question 19, 78%), things always seem to be changing (Question 26, 75%), there is a lot of confusion at times (Question 40, 66%), things are sometimes unclear (Question 54, 62%), and people are always changing their minds (Questions 61, 62%). For the majority of these questions, residents took the opposite viewpoint, but, for Question 19, 54% of the residents did agree with staff that some residents look messy. This, however, is a lower percentage than the staff results and could indicate a difference in generational values.

For the summary question which specifically asks if the place is very well organized (Question 47), both residents (85%) and staff (71%) agree that the NH is well organized. Because staff indicate a negative perspective of the organization dimension in five other questions, this could indicate that: 1) staff are confused about their perception; 2) the other five questions do not effectively measure the organization dimension; or 3) the questions are not easily understood by the respondents.

The negative response to Question 33, might be a concern to administrators and planners. A majority of resident respondents (63%) and staff respondents (52%) believe that residents do not know what would happen if a resident broke a rule.

Resident Influence

This subscale measures the extent to which the residents can influence and change the rules and policies of the facility and the extent to which the staff restrict the residents through regulations.

Residents tend to be more negative in answering the questions of

this subscale. Residents believe that residents will get into trouble if they fight with each other (Question 20, 68%), staff do not allow residents to break minor rules (Question 41, 62%) and residents do not have any say in making the rules (Question 41, 75%). Staff have taken the opposite viewpoint in all of these questions. These differences are revealing and could indicate the level of vulnerability that exists for those who are institutionalized in a long term care facility.

A moderately high percentage of residents (43%) believe they would be asked to leave if a rule was broken (Question 55), even though staff (81%) believe residents would not be asked to leave. On a more positive note, a majority of residents (53%) believe that residents can change things if they try to change things and this concurs with staff beliefs (Question 62, 71%).

Physical Comfort

This subscale measures the extent to which comfort, privacy, pleasant decor and sensory satisfaction are provided by the physical environment.

Residents tend to answer these questions in a positive direction, except for Question 49. Fifty-seven percent of residents believe it is sometimes hot and stuffy and this concurs with the staff beliefs (95%).

The majority of staff present a slightly negative viewpoint. Fifty-four percent do not feel the furniture is comfortable and homey, 60% do not feel the residents can have privacy when they want,

68% feel that it is sometimes very noisy and 57% believe it smells bad occasionally.

Both residents and staff agree that the lighting is good (81% residents; 83% staff) and the decoration and colors make the NH a warm and cheerful place (87% residents; 63% staff).

Findings

These results appear to indicate the following:

1) Some of the questions on the SCES questionnaire are confusing and ambiguous to respondents. An example may be found in the Organization subscale where questions with similar meanings have been answered in the opposite direction. Also, several subscales utilize double negatives such as "unusual" or qualifiers such as "usually". An example may be found in the Independence subscale where several questions have elicited "no answer" responses or an even split between negative and positive responses. In addition, some questions which are scored in a negative direction, could be interpreted in a positive manner depending on the needs of the individual. These results indicate that this instrument may not be measuring perceptions accurately and may have reliability and validity problems.

2) In general, residents and staff tend to have opposite viewpoints and the greatest variation is in their perceptions of the conflict, organization and resident influence dimensions. This would indicate the need for further evaluation as to why residents and staff do not agree. Some speculations have been

offered. Organizational changes may have influenced staff perceptions, nonprofessional staff may have inexperience in evaluating accurately, stereotyping of the elderly may have some impact on the evaluations made by younger staff, and/or differences in values and beliefs may enhance opposite perceptions.

3) Evaluation of the social environment by analyzing each individual question might provide specific examples of what constitutes a good or bad social environment. These results, however, become extremely subjective, cumbersome and ambiguous. This emphasizes the need to examine the environment in a more manageable fashion, for example, in 7 subscales as opposed to 63 individual questions.

4.4.3 Nursing Home Profile

Using the means and standard deviations from the U.S. population, NH means have been transformed into standard scores by setting the mean at 50 and the standard deviation at 10.

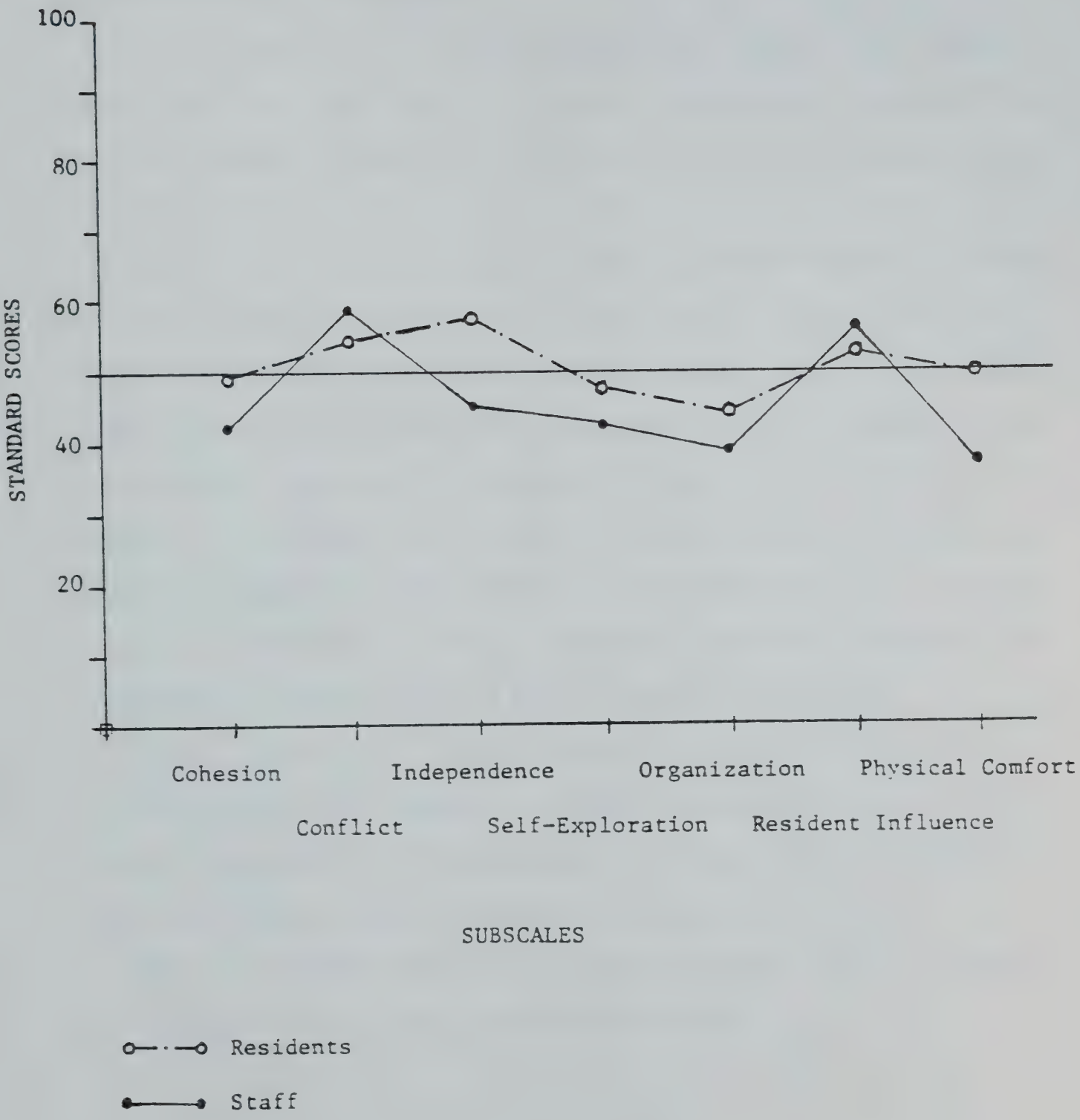
The standardized scores for the NH data are presented in Table X. These calculations are comparable to using the tables which have been developed by Moos and Lemke (1984d). The means from the U.S. normative data have become the "50" on the standard score table and the standard deviations have been adjusted to a standard deviation of 10. Assuming that the Edmonton data are valid, it may be applicable to compare the Edmonton scores to the U.S. averages. Figure II compares the standardized scores of the resident and staff perceptions of their social environment in a graphical

Table X. Standardized scores for SCES subscales for resident and staff data

Subscale	Resident	Staff
1. Cohesion	49.6	41.7
2. Conflict	53.4	57.9
3. Independence	56.9	46.2
4. Self-Exploration	48.4	41.7
5. Organization	45.1	38.8
6. Resident Influence	51.9	55.9
7. Physical Comfort	49.9	35.9

Figure II

Comparison of resident and staff perceptions of their social environment using standard scores



representation. This graph identifies that staff and resident perceptions tend to be similar and that these standardized scores hover around the "50" average. All scores are within $\pm$ 1 standard deviation of the U.S. averages. This is similar to the results as noted by the U.S. researchers.

If one assumes that it is not applicable to compare the Edmonton scores to the U.S. norms, a graphic representation can still be utilized, however, scores are not standardized and the standard scale is not utilized.

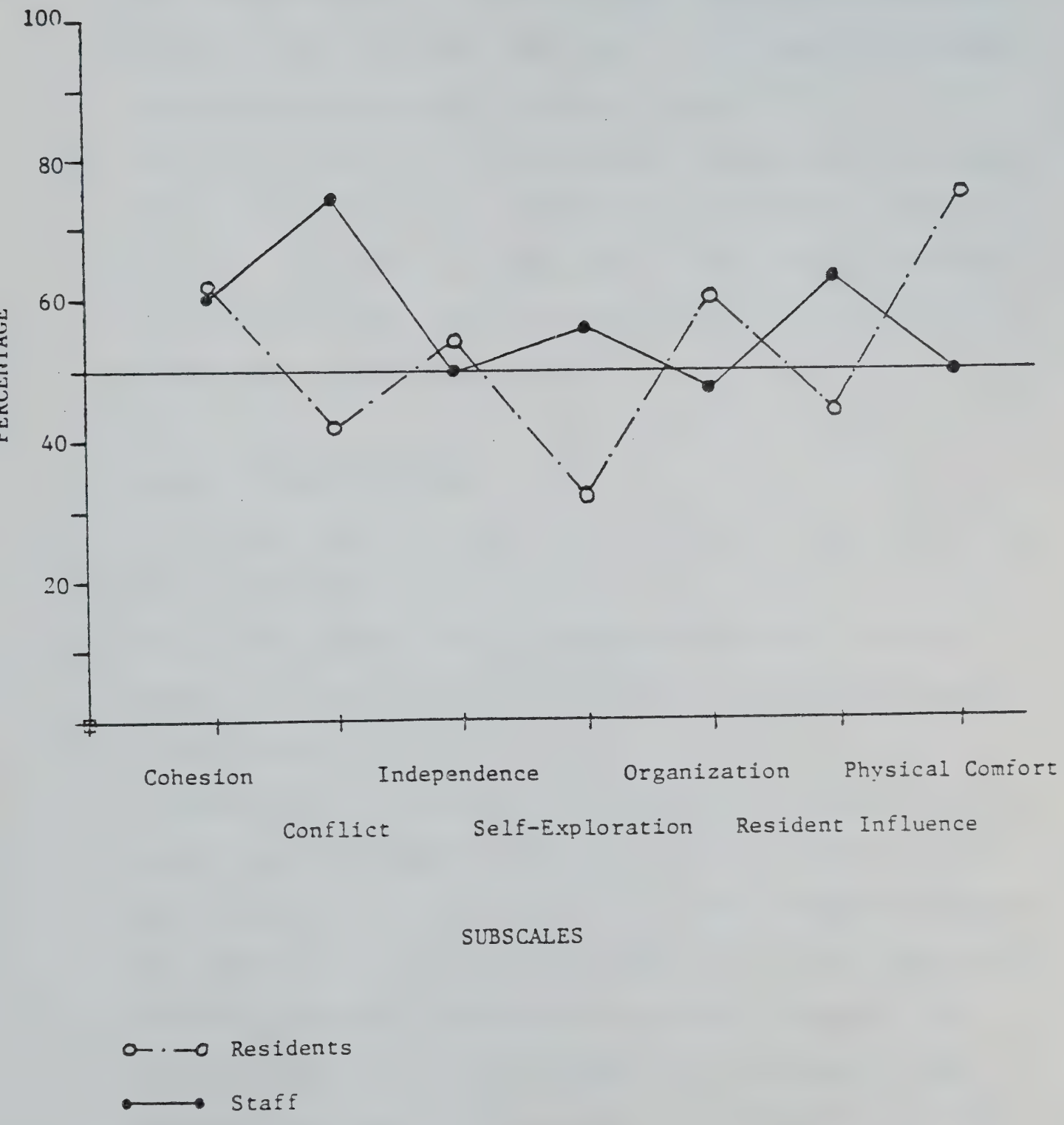
Figure III compares the actual mean percentage scores of the SCES subscales between residents and staff using a percentage scale. Staff and residents can only be compared against each other. This graph identifies that staff and residents have a low agreement on the perception of their social environment. Six of the subscales are scored in opposite directions. Residents report a relatively negative perception of the conflict, self-exploration and resident influence dimensions, but a relatively positive perception of independence, organization, and physical comfort dimensions.

Staff report an above average perception of conflict, self-exploration and resident influence subscales, but a below average perception of independence and organization dimensions. Staff perception of physical comfort is average.

Overall, resident and staff perceptions coincide only in judging the cohesion dimension which is above the 50% mark.

Figure III

Comparison of resident and staff perceptions of their social environment using actual percentage scores



Findings

These results appear to indicate the following:

1) When NH means are converted to standardized scores, the means tend to be within ± 1 standard deviation of the U.S. averages. These results tend to indicate that the Edmonton data may be similar to the U.S. data and that it is useful to compare standardized Alberta means to the U.S. averages.
2) Analysis of the graph which compares actual mean percentage scores of residents with staff provides minimal information. Basically, residents and staff appear to have opposite viewpoints in five of the seven social environment dimensions and 9 of 14 perceptions are higher than 50%.

4.5 Summary of Major Findings

Major findings from the results of this study are summarized as follows:

1) There is some evidence that the SCES has reliability as noted by moderate to high internal consistency scores for both resident and staff data.
2) It appears that the scale has face validity as documented by the authors and as reviewed by others. Further, the SCES may possess some construct validity as noted by low intercorrelations between the subscales of resident and staff data. The results from correlating extracted factors to the subscales, however, tend to indicate that the underlying constructs as presented by the U.S. researchers can not be replicated with the present NH data.

Further, it appears that the constructs of the SCES scale have not been determined by Moos and Lemke (1980d) using an established empirical psychometric methodology.

3) Mean percentage scores from the resident data appear to be similar to the U.S. norms in the Cohesion, Self-Exploration, Resident Influence and Physical Comfort subscales and different in the Conflict, Independence and Organization subscales; however, the mean percentage scores from staff data are significantly different from the U.S. norms in all 7 subscales. This would appear to indicate that the Edmonton samples of staff, and possibly the residents, are different from their U.S. counterparts in perceiving the social environment of a nursing home. This suggests that either the particular home is different or the staff are different or both.

4) Nursing home characteristics and the respondent demographics appear to be different from the U.S. normative data. Perceptions of the social environment could be influenced by these differences and some speculations are offered.

   i The level of acuity in the Alberta nursing home may be different than that in the U.S. nursing homes and this could affect the respondents' ability to evaluate objectively.

   ii The larger size of the Alberta NH and the higher staff ratio could have both a positive and a negative affect on perceptions depending on individual needs.

   iii Variations in length of stay could affect the level of knowledge and experience used by the respondents to evaluate the environment.

5) Some of the questions on the SCES questionnaire are ambiguous and difficult to understand. This would lead to inaccurate responses and, thus, problems with reliability and validity of the instrument. In addition, analysis using individual questions, although it effectively focuses on specific issues, appears to be a long and tedious procedure and does not provide as global an overview as that of the graphic profiles.

6) Cross-tabulation results and the graphic representations indicate that residents and staff in this nursing home tend to have opposite viewpoints and the greatest variation is in their perceptions of the conflict, organization and resident influence subscales. This would indicate the need for further evaluation as to why residents and staff do not agree. Some speculations have been offered. Organizational changes may have influenced staff perceptions, nonprofessional staff may have inexperience in evaluating accurately, stereotyping of the elderly may have some impact on the evaluations made by younger staff, and/or differences in values and beliefs may enhance opposite perceptions. When these results are standardized and compared to the U.S. norms, however, the majority of the dimensions of the social environment of this nursing home are above average for both staff and residents and are within $\pm$ 1 standard deviation of the U.S. averages.

Possible interpretation for these findings have been presented. The following chapter presents the conclusions and recommendations leading from these results.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this chapter, the main purpose of this study, the research strategy undertaken to achieve the study objectives and the major findings are summarized. In addition, conclusions are drawn, recommendations are offered, and implications for further research are explored.

5.1 Summary of the Study

In response to increasing pressure from governmental, accrediting and consumer bodies and demands for quality and holistic care in long term care institutions, administrators and planners are faced with establishing accountability for their long term care programs. This study has been undertaken in order to establish and utilize an empirical methodology for the purposes of evaluating the social environment in long term care institutions in Alberta. Thus, this would provide a means to ensure that valuable information on the quality of care in long term care institutions is utilized for external accountability and internal decision-making.

Following this, the study objectives have been aimed at: 1) establishing an empirical evaluation methodology which can be used to measure the social environment in long term care institutions as suggested by the literature; 2) evaluating the methodology for use in the Alberta context; and 3) utilizing the methodology, if appropriate, to evaluate the social environment in a nursing home in Alberta.

In order to place this study in perspective with the available literature, it is important to note that although the literature on program evaluation and quality assurance in long term care institutions is abundant, there are only a few studies and methodologies which have specifically evaluated the social environment in long term care institutions. It has been determined, however, that the Multiphasic Environmental Assessment Procedure (MEAP), a tool developed by the U.S. researchers Moos and Lemke (1984d), has the greatest potential for empirically evaluating the social environment in an Alberta long term care institution.

The research strategy taken in this study has been that of an exploratory, descriptive, cross-sectional, comparative survey entailing two study populations: the residents and staff members of an Edmonton, Alberta nursing home. The 63 item questionnaire utilized was the Sheltered Care Environment Scale (SCES), one of four scales comprising the MEAP.

The data analyses have included: 1) reliability testing of the data using an alpha coefficient; 2) validity assessment using intercorrelations among the subscales and factor analysis of the 63 item questionnaire; 3) a comparative analysis of Edmonton data with U.S. data; and 4) descriptive analyses using cross-tabulations and graphical representations.

Moos and Lemke (1984d) have presented normative data in the "MEAP Manual" and these results have been used for comparative purposes.

5.2 Summary of Major Findings

Major findings from this study on the evaluation of the social environment in long term care institutions are summarized as follows:

1) Findings from the literature include:

   i) A formal evaluation process which follows both the goal attainment and the systems model appears to be ideal. Use of a satisfaction survey methodology appears to be an appropriate methodology for empirically evaluating the quality of the social environment as long as there are stringent tests done to ensure reliability and validity of the instrument.

   ii) On reviewing of the current social context for long term care in Canada, it is evident that there is a need and a demand for administrators to provide quality, holistic care in their long term care institutions. A quality social environment appears to be one determinant of the quality of long term care.

   iii) Although the literature on the measurement of quality of care in long term care institutions is abundant, there are only a few studies and methodologies which have specifically evaluated the social environment. The MEAP has been utilized in several studies, including an Ontario study, and appears to exhibit reliability and validity in the American context.

2) There is some evidence that the SCES has reliability as noted by moderate to high internal consistency scores for both resident and staff data.

3) It appears that the scale has face validity as documented by the authors and as reviewed by others. Further, the SCES may possess some construct validity as noted by low intercorrelations between the subscales of resident and staff data. The results from correlating extracted factors to the subscales, however, tend to indicate that the underlying constructs as presented by the U.S. researchers can not be replicated with the present NH data. Further, it appears that the constructs of the SCES scale have not been determined by Moos and Lemke (1980d) using an established empirical psychometric methodology.

4) Mean percentage scores from the resident data appear to be similar to the U.S. norms in the Cohesion, Self-Exploration, Resident Influence and Physical Comfort subscales and different in the Conflict, Independence and Organization subscales; however, the mean percentage scores from staff data are significantly different from the U.S. norms in all 7 subscales. This would appear to indicate that the Edmonton samples of staff, and possibly the residents, are different from their U.S. counterparts in perceiving the social environment of a nursing home. This suggests that either the particular home is different or the staff are different or both.

5) Nursing home characteristics and respondent demographics appear to be different than the average characteristics and demographics from the U.S. normative study. Perceptions of the social environment could be influenced by these differences and some speculations are offered.

i The level of acuity in the Alberta nursing home may be different than that in the U.S. nursing homes and this could affect the respondents' ability to evaluate objectively.

ii The larger size of the Alberta NH and the higher staff ratio could have both a positive and a negative affect on perceptions depending on individual needs.

iii Variations in length of stay could affect the level of knowledge and experience used by the respondents to evaluate the environment.

6) Some of the questions on the SCES questionnaire are ambiguous and difficult to understand. This would lead to inaccurate responses and, thus, problems with reliability and validity of the instrument. In addition, analysis using individual questions, although it effectively focuses on specific issues, appears to be a long and tedious procedure and does not provide as global an overview as that of the graphic profiles.

7) Cross-tabulation results and the graphic representations indicate that residents and staff in this nursing home tend to have opposite viewpoints and the greatest variation is in their perceptions of the conflict, organization and resident influence subscales. This would indicate the need for further evaluation as to why residents and staff do not agree. Some speculations have been offered. Organizational changes may have influenced staff perceptions, nonprofessional staff may have inexperience in evaluating accurately, stereotyping of the elderly may have some impact on the evaluations made by younger staff, and/or

differences in values and beliefs may enhance opposite perceptions. When these results are standardized and compared to the U.S. norms, however, the majority of the dimensions of the social environment of this nursing home are above average for both staff and residents and are within $\pm$ 1 standard deviation of the U.S. averages.

5.3 Conclusions

Based on the findings of the study and in recognition of the study scope and limitations, the following conclusions may be made:

1) After reviewing the literature, it appeared that the MEAP, and more specifically the SCES, had the greatest potential for empirically evaluating the social environment in an Alberta long term care institution for the following reasons:
   i) it has been developed using a conceptual model and as a measuring instrument, it appeared to include some aspects of both the goal attainment and the systems model;
   ii) it is a satisfaction survey methodology and it appeared to have been tested thoroughly for reliability and validity in the U.S., and Canadian researchers have recommended its use for practical and theoretical research.
2) With reference to the original research problem, it appears that the SCES instrument has some potential as an empirical methodology for evaluating the social environment in long term care institutions in Alberta, however, the present NH study has not provided a definitive conclusion. Specifically, although the

tool exhibits some reliability, there is a question as to whether the underlying constructs measure what they are supposed to measure. Therefore, information provided by use of this tool may not allow administrators and planners in Alberta to empirically account for the quality of the social environment in their long term care institutions.

3) Administrators and planners in Alberta long term care institutions may find that comparing their data to the standard scores, which have been calculated using the U.S. norms is not an applicable method for establishing the quality of the social environment. It appears that the difference between the Alberta and Canadian mean scores and U.S. scores cannot be attributed to chance factors. This suggests that there exists major differences in the social environment as perceived by the Alberta residents and staff. This may be because of differences in health care policies and programs, staffing patterns and education, resident expectations, and other factors.

4) Evaluation of the social environment in the nursing home of this study can only be done from a descriptive, non-inferential perspective as the previous mentioned results and conclusions do not decisively determine that the SCES is an empirical instrument for use in the Alberta context. On evaluating the social environment from a descriptive perspective, it can be noted that the residents have a fairly positive perception of their social environment in this particular nursing home. Areas which might be investigated more carefully by the administrators and planners

of this nursing home are the conflict dimension as perceived by residents and the organization dimension as perceived by staff.

Taken together, these conclusions regarding the empirical evaluation of the social environment in long term care institutions bring in to focus the central point of this thesis. Administrators and planners must be astutely aware of the quality of the evaluation methodologies being utilized for the evaluation of their programs. Accountability and effective decision-making hinge on accurate information being available through empirical data collection.

5.4 Recommendations

Based on the findings and conclusions of this study, the following recommendations are offered:

1) As long as administrators and planners are aware of the inherent empirical problems and attempt to utilize additional information for decision-making and accountability, the SCES instrument could be a beneficial instrument for practical use in describing the social environment in a general way.
2) In order to provide additional information relevant to the evaluation of the social environment in Alberta long term care institutions, it is recommended that further research be undertaken in the following areas:
   i) A larger study which utilizes a probability sample, involves many nursing homes, and uses the SCES as the instrument for measuring the social environment should be undertaken to

determine the norms specific to the Canadian population of long term care institutions.

ii) A questionnaire, specifically designed for the Canadian long term care social context and social environment, should be developed and tested in a pilot study, and the underlying constructs should be determined by an empirical methodology such as factor analysis.

iii) A longitudinal study using the SCES questionnaire in the present nursing home could be done to: 1) determine stability of the instrument over time; and 2) provide comparative information to the administrators and planners of the nursing home.

REFERENCES

Alberta Bureau of Statistics (1987). Updated projections. Released February. Edmonton: Author.

Alberta Department of Hospitals and Medical Care and Alberta Mortgage and Housing Corporation (1981). Multi-level care facilities: Evaluation models for Alberta. Final report. Vol. 1. Edmonton: Author.

Alberta Public Health Association (1981). Submission to the nursing home review panel. (Unpublished document). Edmonton: Author.

Alberta Senior Citizens Secretariat (1986). Older Albertans. Edmonton: Author.

Andreasen, M.E. (1985). Making safe environments by design. Journal of Gerontological Nursing, 11(6): 18-22.

Ansello, E.F. (1985). The activity coordinator as environment press. In: Cook, J.D. (Ed.), Innovations in Activities for the Elderly: Proceedings of the 1984 National Association of Activity Professionals Convention, New York: Hawthorne Press, Inc., pp. 87-97.

Babbie, E.R. (1973). Survey research methods. Belmont: Wadsworth Publishing Company, Inc.

Baker, F. (1983). Quality assurance and program evaluation. Evaluation and the Health Professions, 6(2), 149-160.

Barney, J.L. (1974). Community presence as a key to quality of life in nursing homes. American Journal of Public Health, 64(3), 265-268.

Barrett, P. & Cohen, C. (Eds.) (1980). Funk & Wagnalls Standard Dictionary. New York: Lippincott & Crowell.

Bauman, K.E. (1980). Research methods for community health and welfare. New York: Oxford University Press.

Billingsley, J.D. & Batterson, C.T. (1986). Evaluating long-term care facilities: A field application of the MEAP. Journal of Long-Term Care Administration, 14(1), 16-19.

Blair, K.B. (1979). Patient care in long-term care facilities. The Journal of Long-Term Care Administration, 8(1), 3-14.

Bloch, D. (1975). Evaluation of nursing care in terms of process and outcome: Issues in research and quality assurance. Nursing Research, 24(4), 256-263.

Booth, T. (1986). Institutional regimes and induced dependency in homes for the aged. The Gerontologist, 26(4), 418-423.

Broling, T.E., Vrooman, D.M. & Sommers, K.M. (1983). Nursing home management. A humanistic approach. New York: C.C. Thomas.

Brook, R.H. & Williams, K.N. (1975). Quality of health care for the disadvantaged. Journal of Community Health, 1(2), 132-156.

Canadian Council on Hospital Accreditation (1985). Standards for for accreditation of Canadian long term care centres. Ottawa: Author.

Canadian Union of Public Employees National Task Force on Nursing Homes (1980). Nursing homes in Alberta. A preliminary report. (Unpublished document). Ottawa: Author.

Campbell, W. (1983). The role of home health aides in home care: A review and program evaluation proposal. Unpublished master's major paper. Department of Health Services and Community Medicine, University of Alberta.

Campbell, D.T. & Stanley, J.C. (1966). Experimental and quasi-experimental designs for research. Chicago: Rand McNally College Publishing Company.

Carter, R. (1986). Strategic planning: A design lifeline. Provider, 12(4), 6-9.

Champagne, F., Contandriopoulos, A. & Pineault, R. (1986). A health care evaluation framework. Health Management Forum, 7(2), 57-65.

Chappell, N.L. (1982). The future impact of the changing status of women. In: Gutman, G. (Ed.). Canada's changing age structure: Implications for the future. Burnaby: SFU Publications, pp. 203-237.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. Psychometricka, 16(3), 297-334.

Daft, R.L. (1983). Organization theory and design. New York: West Publishing Company.

David, T.G., Moos, R.H. & Kahn, J.R. (1981). Community integration among elderly residents of sheltered care settings. American Journal of Community Psychology, 9(5), 513-526.

Denton, F.T. & Spencer, B.G. (1980). Canada's population and labour force: Past, present and future. In Marshall, V.W. (Ed.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Ltd. pp. 10-26.

Department of National Health & Welfare (1982). Canadian government report on aging. Ottawa: Author.

DiBerardinis, J. & Gitlin, D. (1980). A holistic assessment model for identifying quality care indicators in long-term care. Long Term Care Health Services Administration Quarterly, 4(3), 227-235.

Donabedian, A. (1966). Evaluating the quality of medical care. Millbank Memorial Fund Quarterly, 44(Part 2), 166-206.

Donabedian, A. (1980). Explorations in quality assessment monitoring. Vol. 1. The definition of quality and approaches to its assessment. Ann Arbor: Health Administration Press.

Doudera, A.E. (1985). Decision-making and patients' rights. Journal of the American Health Care Association, 11(3), 5-8.

Dougherty, D. (1985). The effect of the environment on the self-esteem of older persons. Physical and Occupational Therapy in Geriatrics, 4(1), 21-31.

Dyck, H.J. (1970). Social futures in Alberta, 1970-2005. Edmonton: Human Resources Research Council of Alberta.

Etzioni, A. (1969). Two approaches to organizational analysis: A critique and a suggestion. In: Schulberg, H.C. Sheldon, A. & Baker, F. (Eds.). Program evaluation in the health fields. New York: Behavioral Publications.

Evans, R.G. (1984). Strained mercy. The economics of Canadian health care. Toronto: Butterworths.

Fottler, M.D., Smith, H.L. & James, W.L. (1981). Profits and patient care quality in nursing homes: Are they compatible? The Gerontologist, 21(5), 532-538.

Freeman, H.E. (1976). The present status of evaluation research. Evaluation Studies Review Annual, 2, 17-20.

Friel, J.P. (Ed.) (1974). Dorland's medical dictionary. Toronto: W.B. Saunders Company.

Glushek, C.J. (1985). Homes for the elderly: Places to enjoy life? or exist until death? The Victims Advocate, 1(3), 54-58.

Golant, S.M. (1986). Subjective housing assessments by the elderly: A critical information source for planning and program evaluation. The Gerontologist, 26(2), 122-127.

Gottsman, L. & Bourestom, N. (1974). Why nursing homes do what they do. The Gerontologist, 14(6), 501-506.

Griesel, E. & Horne, L. (1976). Citizen's action guide. Nursing home reform. (Unpublished document).

Griffith, J.R. (1978). Measuring hospital performance. Chicago: Blue Cross Association.

Gutman, G. (1980). The elderly at home and in retirement housing: A comparative study of health problems, functional difficulties and support services needs. In: Marshall, V.W. (Ed.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Ltd. pp. 189-200.

Harel, Z. (1981). Quality of care, congruence and well-being among institutionalized aged. The Gerontologist, 21(5), 523-531.

Harel, A., & Nagpaul, K. (1979). Quality care institutions for the aged: Research and practice perspectives. Long-Term Care Health Services Administration Quarterly, 3(2), 120-129.

Havens, B. (1982). Population projections: Certainties and uncertainties. Gutman, G. (Ed.). In: Canada's changing age structure: Implications for the future. Burnaby: SFU Publications, pp. 1-31.

Health and Welfare Canada (1984). Adult long term institutional care. Ottawa: Author.

Hemenway, D. (1983). Quality assessment from an economic perspective. A taxonomy of approaches with applications to nursing home care. Evaluation and the Health Professions, 6(4), 379-396.

Hetherington, R.W. (1982). Quality assurance and organizational effectiveness in hospitals. Health Professions, 6(4), 379-396.

Hodkinson, I. & Hodkinson, H.M. (1981). The long-stay patient. Gerontology, 27, 167-172.

Holland, W.W. (Ed.) (1983). Evaluation of health care. Toronto: Oxford Medical Publication.

Insel, P.M. & Moos, R.H. (1974). Health and the social environment. Toronto: Lexington Books.

Jesion, M.L. & Rudin, S.E. (1983). Evaluation of the social model of long term care. Health Management Forum, 4(2), 64-80.

Kahana, E. (1973). The humane treatment of old people in institutions. The Gerontologist, 13(3), 282-289.

Kahana, E. & Coe, R. (1969). Self and staff conception of institutionalized aged. The Gerontologist, 9(2), 261-267.

Kahn, K.A., Hines, W., Woodson, A.S. & Burkham-Armstrong, G. (1977). A multidisciplinary approach to assessing the quality of care in long-term care facilities. The Gerontologist, 17(1), 61-65.

Kanaly, G. & Smith, M.C. (1982). Nursing attitudes towards the constructed environment of nursing homes. Hospital and Health Services Administration, 27(6), 74-100.

Kane, R.A. (1981). Assuring quality of care and quality of life in long term care. Quality Review Bulletin, 7(10), 3-10.

Kane, R.L., Bell, R.M. & Riegler, S.Z. (1986). Value preferences for nursing home outcomes. The Gerontologist, 26(3), 303-308.

Kannegieter, R.B. (1986). The development of the environmental assessment scale. Occupational Therapy in Mental Health, 63(3), 67-83.

Kart, C.S. & Manard, B.B. (1976). Quality of care in old age institutions. The Gerontologist, 16(3).

Kerlinger, F.N. (1986). Foundations of behavioral research. Toronto: Holt, Renehart and Winston.

Kim, J. & Mueller, C.W. (1979). Introduction to factor analysis. What is it and how to do it. London: Sage Publications.

Kupst, M.J., Schulman, J.L. & Dowding, J. (1979). Evaluation: Attitudes towards patient care and work satisfaction. Hospital and Health Services Administration, 24(1), 78-92.

LaPatra, J.W. (1975). Health care delivery systems. Evaluation criteria. Springfield: C.C. Thomas.

Lalonde, M. (1974). A new perspective on the health of Canadians. Ottawa: Department of National Health and Welfare Canada.

Lawton, M.P. (1983). Environment and other determinants of well-being in older people. The Gerontologist, 23, 349-357.

Lemke, S. & Moos, R.H. (1980). Assessing the institutional policies of sheltered care settings. Journal of Gerontology, 35(1), 96-107.

Lemke, S. & Moos, R.H. (1981). The suprapersonal environments of sheltered care settings. Journal of Gerontology, 36(2), 233-243.

Lemke, S. & Moos, R.H. (1987). Measuring the social climate of congregate residences for older people: Sheltered care environment scale. Psychology and Aging, 2(1), 20-29.

Levine, R.E. & Cook, S. (1987). Psychosocial aspects of the environment. Topics in Geriatric Rehabilitation, 3(1), 27-34.

Linn, M. (1974). Predicting quality of patient care in nursing homes. The Gerontologist, 14(3), 225-227.

Linn, M.W., Gurel, L. & Linn, B.S. (1977). Patient outcome as a measure of quality of nursing home care. American Journal of Public Health, 67(4), 337-344.

Longest, B.B., Foster, L.A., Hilgers, S.M., McNeil, S.H. & Rentz, N.G. (1975). An empirical analysis of the relationship of selected structural factors of patient care in nursing homes. The Journal of Long-Term Care Administration, 3(2), 16-20.

Luke, R.D. & Boss, R.W. (1981). Barriers limiting the implementation of quality assurance programs. Health Services Research, 16(3), 305-314.

Lynch, A. (1984). The personalized quality assurance program. Health Management Forum, 5(1), 67-74.

Maddox, G.L. (1985). Intervention strategies to enhance well-being in later life: The status and prospect of guided change. Health Services Research, 19(6), Part II, 1007-1032.

Maguire, G.H. & Kramer, F. (1987). Formulating environmental change at the community level. The case of an emergency shelter. Topics in Geriatric Rehabilitation, 3(1), 49-56.

Marshall, V.W. (Ed.) (1980). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Limited.

Martin, D.L. (1977). Health promotion evaluation. A primer. Ottawa: Department of National Health and Welfare.

Martin-Smith, B. (1984). Measuring the quality of care. Health Care, 26(4), p. 15.

Mech, A.B. (1980). Evaluating the process of nursing care in long term care facilities. Quality Review Bulletin, 6(3), 24-31.

Medicus Canada (1978). Planning guidelines for nursing homes: A selective review of current practice, (Prepared for the Policy & Program Development Branch, Alberta Housing & Public Works). Toronto: Author.

Medicus Canada (1982). Assessment and placement for long term care. Vol. 1. Assessment and placement study submitted to the study steering committee. Toronto: Author.

Meilicke, C.A. & Storch, J.L. (Eds.) (1980). Perspectives on Canadian health and social services policy: History and emerging trends. Ann Arbor: Health Administration Press.

Metch, J.M. (1974). Evaluating the organization and management of the long term care program. The Journal of Long Term Care Administration, 2(1), 28-36.

Michnich, M.E., Shortell, S.M. & Richardson, W.C. (1981). Program evaluation: Resource for decision making. Health Care Management Review, 6(3), 25-35.

Midkiff, M.C. (1985). Proper planning for your building project. Journal of Long-Term Care Administration, 13(3), 75-77.

Mitchell, G. & Copeland, V. (1985). Quality is a living environment. Journal of the American Health Care Association, 11(4), 33-35.

Molloy, G.E. (1977). Quality assurance and the survey process. The Journal of Long-Term Care Administration, 5(2), 1-20.

Monroe, J. (1987). Getting value for our health dollars. The Edmonton Journal, August 11, p. A4.

Moos, R.H. (1974). Evaluating treatment environments: A social ecological approach. New York: Wiley.

Moos, R.H. (1980). Evaluating the environments for older people: A conceptual framework for evaluation. Journal of Social Issues, 36(2), 75-94.

Moos, R.H., Gauvain, M., Lemke, S., Max, B. & Mehren, B. (1979). Assessing the social environments of sheltered care settings. The Gerontologist, 19(1), 74-81.

Moos, R.H. & Igra, A. (1980). Determinants of the social environments of sheltered care settings. Journal of Health and Social Behaviour, 21(1), 88-98.

Moos, R.H. & Lemke, S. (1980). Assessing the physical and architectural features of sheltered care settings. Journal of Gerontology, 35(4), 571-583.

Moos, R.H. & Lemke, S. (1984a). Multiphasic environmental assessment procedure. Data collection forms. Palo Alto: Social Ecology Laboratory, Department of Psychiatry, Standford University, Veterans Administration Hospital.

Moos, R.H. & Lemke, S. (1984b). Multiphasic environmental assessment procedure. Handbook for users. Palo Alto: Social Ecology Laboratory, Department of Psychiatry, Standford University, Veterans Administration Hospital.

Moos, R.H. & Lemke, S. (1984c). Multiphasic environmental assessment procedure. Handscoring Book. Palo Alto: Social Ecology Laboratory, Department of Psychiatry, Standford University, Veterans Administration Hospital.

Moos, R.H. & Lemke, S. (1984d). Multiphasic environmental assessment procedure. Manual. Palo Alto: Social Ecology Laboratory, Department of Psychiatry, Standford University, Veterans Administration Hospital.

Moos, R.H. & Lemke, S. & Clayton, J. (1983). Comprehensive Assessment of residential programs: A means of facilitating evaluation and change. Interdisciplinary Topics on Gerontology, 17, 69-83.

Myles, J. (1980). Institutionalizing the elderly: A critical assessment of the sociology of total institutions. In: Marshall, V.W. (Ed.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Limited, pp. 257-268.

Nehrke, M.F., Morganti, J.B., Hulicka, I.M., Turner, R.R., Cohen, S.H., Whitbourne, S.K. & Cahaldo, J.F. (1984). Differences in person-environment congruence between microenvironments. Canadian Journal on Aging, 3(3), 117-132.

Pastalan, L.A. (1986). Six principles for a caring environment. Provider, 12(4), 4-5.

Pearlman, R.A. & Speer, J.B. (1983). Quality of life considerations in geriatric care. Journal of American Geriatrics Society, 31(2), 113-120.

Penning, M. & Chappell, N. (1980). A reformulation of basic assumptions about institutions for the elderly. In: Marshall, V.W. (Eds.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Limited, pp. 269-280.

Pinder, M.M. (1981). Achievement of desired affects among nursing homes. The Journal of Long-Term Care Administration, 9(2), 56-61.

Powell, B.J. & Martin, J.K. (1980). Economic implications of Canada's aging society. In: Marshall, V.W. (Ed.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Limited, pp. 204-214.

Price, J.A. (1985). An inspector's view on quality. Journal of the American Health Care Association, 11(14), 34.

Quade, E.S. (1975). Analysis for public decisions. New York: American Elsevier.

Rainwater, A. & Christiansen, K. (1984). Wellness/quality of life program in a long-term care facility. The Journal of Long-Term Care Administration, 12(4), 13-18.

Rolka, H.R. (1983). Quality assurance for the terminally ill. Hospital and Health Services Administration, 28(2), 66-80.

Ryden, M.B. & Rustad, R. (1985). Wellness model replaces medical model. The Journal of Long-Term Care Administration, 13(4), 115-119.

Schnore, M.M. & Cyre, J. (1980). Staff and resident perceptions of their environment in sheltered care setting. A paper presented at the ninth scientific and educational meeting of the Canadian Association on Gerontology, Saskatoon, October.

Schulberg, H.C. & Baker, F. (1968). Program evaluation models and the implementation of research findings. American Journal of Public Health, 58(7), 1248-1255.

Schulberg, H.C., Sheldon, A. & Baker, F. (1969). Program evaluation in the health fields. New York: Behavioral Publications.

Schwenger, C. & Gross, J. (1980). Institutional care and institutionalization of the elderly in Canada. In: Marshall, V.W. (Ed.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Limited, pp. 248-256.

Science Council of Canada (1976). Study on population, technology and resources. Perception 2. Changing age structure of the Canadian population. Ottawa: Supply and Services Canada.

Seleen, D.R. (1981). The congruence between actual and desired use of time by older adults: A predictor of life satisfaction. The Gerontologist, 22(1), 95-99.

Sherwood, S. (Ed.) (1975). Long-term care: A handbook for researchers, planners, and providers. Toronto: Spectrum Publications.

Shore, H.H. (1986). Looking at quality in facility living. Provider, 12(7), 4-6, 8.

Shortell, S.M. & Richardson, W.C. (1978). Health program evaluation. St. Louis: C.V. Mosby Company.

Shulman, N. (1980). The aging of urban Canada. In: Marshall, V.W. (Ed.). Aging in Canada. Social perspectives. Don Mills: Fitzhenry & Whiteside Limited, pp. 27-34.

Singer, E. (1977). Subjective evaluations as indicators of change. Journal of Health and Social Behaviour, 18, 84-90.

Snyder, L.H. (1973). An exploration study of patterns of social interaction, organization, and facility design in three nursing homes. International Journal of Aging and Human Development. 4(4), 319-333.

Speedling, E.J., Morrison, B., Rehr, H. & Rosenberg, G. (1983). Patient satisfaction surveys. Closing the gap between provider and consumer. Quality Review Bulletin, 9(2), 224-228.

Spencer, J.C. (1987). Environmental assessment strategies. Topics in Geriatric Rehabilitation, 3(1), 35-41.

SPSSx Inc. (1983). SPSSx User's Guide. Chicago: McGraw-Hill Book Company.

Statistics Canada (1986). Census. Ottawa: Author.

Stein, S., Linn, M.W., Stein, E.M. & Linn, B.S. (1983). The impact of environment on perception of stress and symptoms of the elderly. Activities, Adaptation and Aging, 3(4), 39-48.

Stewart, M. (1987). Bereavement home visiting: Public health nurses' perceptions. Unpublished Master's thesis. Department of Health Services administration and Community Medicine. University of Alberta.

Stoller, E.P. (1984). Self-assessments of health by the elderly: The impact of information assistance. Journal of Health and Social Behaviour, 25(3), 260-269.

Stuart, N., Rutman, L. & Staisey, N. (1985). Program evaluation in hospitals. Health Management Forum, 6(2), 12-21.

Suchman, E.A. (1976). Evaluation research. Principles and practice in public service and social action programs. New York: Russel Sage Foundation.

Szafran, O. (1985). Utilization of acute care hospitals by the elderly in Alberta. Unpublished Master's thesis. Department of Health Services Administration and Community Medicine. University of Alberta.

Thompson, B. & Swisher, M. (1983). An assessment, using the Multiphasic Environmental Assessment Procedure, of a rural life-care residential center for the elderly. Journal of Housing for the Elderly, 1(2), 41-56.

Tripodi, T., Fellin, P. & Epstein, I. (1969). Social program evaluation. Guidelines for health, education and welfare administrators. Itasca: F.E. Peacock Publishers, Inc.

Ullman, S.G. (1981). Assessment of facility quality and its relationship to facility size in the long-term health care industry. The Gerontologist, 21(1), 91-97.

United States Department of Health, Education and Welfare (1977). The practice of evaluation. ERIC Clearinghouse on tests, measurement, and evaluation. Princeton: Author.

Veney, J.E. & Kaluzny, A.D. (1984). Evaluation and decisionmaking for health services programs. Englewood Cliffs: Prentice-Hall, Inc.

Walker, A.H. & Restuccia, J.D. (1984). Obtaining information of patient satisfaction with hospital care: Mail versus telephone. Health Services Research, 19(3), 291-306.

Wallace, P., Lowi, M. & Colton, M. (1986). Practical quality assurance program meets accreditation challenge. Dimensions, 19-21, 45.

Wandersman, A. & Moos, R.H. (1981). Assessing and evaluating residential environments. A sheltered living environment example. Environment and Behaviour, 13(4), 481-508.

Ware, J.E., Davies-Avery, A. & Stewart, A.L. (1978). The measurement and meaning of patient satisfaction. Health and Medical Care Services Review, 1(1), 1-15.

Williams, C.C. (1986). Social work: Keeping life's fabric intact. Provider, 12(7), 26-28.

Williams, K.N. & Brook, R.H. (1978). Quality measurement and assurance. Health and Medical Care Services Review, 1(3), 1-15.

Yerxa, E.J. & Baum, S. (1987). Environmental theories and the older person. Topics in Geriatric rehabilitation, 3(1), 7-18.

Zemach, R. (1973). Program evaluation and system control. American Journal of Public Health, 63(7), 607-609.

APPENDIX A: THE SHELTERED CARE ENVIRONMENT SCALE

A.1 S.C.E.S. Questionnaire

A.2 Answer Sheet

Appendix A.1 SCES Questionnaire

1. Do residents get a lot of individual attention? ..... Yes No
2. Do residents ever start arguments? ..... Yes No
3. Do residents usually depend on the staff to set up activities for them? ..... Yes No
4. Are residents careful about what they say to each other? ..... Yes No
5. Do residents always know when the staff will be around? Yes No
6. Are the staff strict about rules and regulations? ..... Yes No
7. Is the furniture comfortable and homey? ..... Yes No
8. Do staff members spend a lot of time with residents? .. Yes No
9. Is it unusual for residents to openly express their anger? ..... Yes No
10. Do residents usually wait for staff to suggest an idea or activity? ..... Yes No
11. Are personal problems openly talked about? ..... Yes No
12. Are activities for residents carefully planned? ..... Yes No
13. Are new and different ideas often tried out? ..... Yes No
14. Is it ever cold and drafty? ..... Yes No
15. Do staff members sometimes talk down to residents? .... Yes No
16. Do residents sometimes criticize or make fun of the place? ..... Yes No
17. Are residents taught how to deal with practical problems? ..... Yes No
18. Do residents tend to hide their feelings from one another? ..... Yes No
19. Do some residents look messy? ..... Yes No
20. If two residents fought with each other do they get in trouble? ..... Yes No
21. Are residents able to have privacy whenever they want? Yes No

22. Are there a lot of social activities? ..... Yes No

23. Do residents usually keep their disagreements to themselves? ..... Yes No

24. Are many new skills taught? ..... Yes No

25. Do residents talk a lot about their fears? ..... Yes No

26. Do things always seem to be changing? ..... Yes No

27. Do staff allow the residents to break minor rules? .... Yes No

28. Does the place seem crowded? ..... Yes No

29. Do a lot of the residents just seem to be passing time? Yes No

30. Is it unusual for residents to complain about each other? ..... Yes No

31. Are residents learning to do more things on their own? Yes No

32. Is it hard to tell how the residents are feeling? ..... Yes No

33. Do residents know what would happen to them if they broke a rule? ..... Yes No

34. Are suggestions made by the residents acted upon? ..... Yes No

35. Is it sometimes very noisy? ..... Yes No

36. Are requests made by residents usually taken care of right away? ..... Yes No

37. Is it always peaceful and quiet? ..... Yes No

38. Are the residents strongly encouraged to make their own decisions? ..... Yes No

39. Do residents talk a lot about their past dreams and ambitions? ..... Yes No

40. Is there a lot of confusion at times? ..... Yes No

41. Do residents have any say in making the rules? ..... Yes No

42. Does it every smell bad? ..... Yes No

43. Do staff members sometimes criticize residents over minor things? ..... Yes No

44. Do residents often get impatient with each other? ..... Yes No

45. Do residents sometimes take charge of activities? ..... Yes No

46. Do residents ever talk about illness and death? ..... Yes No

47. Is the place very well organized? ..... Yes No

48. Are the rules and regulations rather strongly enforced? Yes No

49. Is it every hot and stuffy? ..... Yes No

50. Do residents tend to keep to themselves? ..... Yes No

51. Do residents complain a lot? ..... Yes No

52. Do residents care more about the past than the future? Yes No

53. Do residents talk about their money problems? ..... Yes No

54. Are things sometimes unclear? ..... Yes No

55. Is a resident ever asked to leave if he/she broke a rule? ..... Yes No

56. Is the lighting very good? ..... Yes No

57. Are the discussions very interesting? ..... Yes No

58. Do residents criticize each other a lot? ..... Yes No

59. Are some of the residents' activities really challenging? ..... Yes No

60. Do residents keep their personal problems to themselves? Yes No

61. Are people always changing their minds? ..... Yes No

62. Are residents able to change things if they really tried? ..... Yes No

63. Do the colors and decorations make the place warm and cheerful? ..... Yes No

SHELTERED CARE ENVIRONMENT SCALE-- Answer Sheet

NAME (optional) _____ AGE _____

NAME OF FACILITY _____

MALE ☐ FEMALE ☐ TODAY'S DATE _____

HOW LONG HAVE YOU LIVED OR WORKED HERE? _____ Years _____ Months _____ Days

IF YOU ARE A STAFF MEMBER, CHECK THE FOLLOWING BOX ☐
AND INDICATE YOUR STAFF POSITION _____

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	
YES								YES
NO								NO
	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14	
YES								YES
NO								NO
	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	Item 21	
YES								YES
NO								NO
	Item 22	Item 23	Item 24	Item 25	Item 26	Item 27	Item 28	
YES								YES
NO								NO
	Item 29	Item 30	Item 31	Item 32	Item 33	Item 34	Item 35	
YES								YES
NO								NO
	Item 36	Item 37	Item 38	Item 39	Item 40	Item 41	Item 42	
YES								YES
NO								NO
	Item 43	Item 44	Item 45	Item 46	Item 47	Item 48	Item 49	
YES								YES
NO								NO
	Item 50	Item 51	Item 52	Item 53	Item 54	Item 55	Item 56	
YES								YES
NO								NO
	Item 57	Item 58	Item 59	Item 60	Item 61	Item 62	Item 63	
YES								YES
NO								NO

APPENDIX B: FACTOR ANALYSIS RESULTS

B.1 Factor Analysis of Resident Data. Orthogonal Solution with Varimax rotation

B.2 Factor Analysis of Staff Data. Orthogonal Solution with Varimax rotation

B.3 Item Composition of Factors Extracted from Resident Data

B.4 Item Composition of Factors Extracted from Staff Data

Appendix B.1

Factor Analysis of Resident Data

Orthogonal Solution with Varimax Rotation

Item No.	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Factor VIII
1	.06	.32	.16	-.08	.36	-.05	.39
2	-.58	.17	.11	-.01	-.25	.12	.13
3	-.00	-.21	-.01	-.13	-.07	-.14	-.42
4	-.62	-.06	-.03	-.25	-.15	.06	.11
5	.17	.39	-.10	.30	.14	.03	.13
6	.05	-.63	-.09	-.08	.11	.26	.11
7	.12	-.07	-.16	-.12	.18	.44	.13
8	-.07	.33	.09	.02	.13	.11	.09
9	-.15	.19	.02	-.13	-.46	-.00	.02
10	-.12	-.04	.01	-.14	-.00	-.14	-.45
11	.07	.03	.47	.32	-.16	.09	.27
12	.13	.29	-.33	.46	.00	-.06	.02
13	-.04	-.03	.09	.64	.17	-.09	.29
14	.17	.25	-.13	-.42	.14	.23	.47
15	.23	-.08	-.19	-.05	-.04	.06	-.16
16	.32	.11	.58	-.08	-.21	.01	.23
17	-.16	.54	-.01	.32	-.05	.18	.02
18	.03	.11	-.01	-.31	.03	.53	-.16
19	.58	.08	-.03	.27	.11	-.23	.09
20	.06	-.39	-.09	.24	.25	.44	.04
21	.13	.11	.24	.02	.56	.14	.01
22	.11	.25	.17	.47	.06	.04	.02
23	-.29	.22	-.05	.18	-.27	.58	-.08
24	-.02	.29	.15	.55	-.20	.15	.15
25	-.13	-.12	.66	.16	.26	.04	-.07
26	.71	.10	.05	-.14	.05	.29	.16
27	.03	.00	.22	.24	-.05	.50	.01
28	.45	.31	.09	.00	.01	-.02	-.05
29	.22	-.00	.14	.19	.17	.06	-.46
30	-.24	-.14	.17	-.08	-.39	.00	.08
31	-.26	.21	-.20	.36	.39	-.19	-.23
32	.24	-.01	.48	-.00	-.09	.31	-.16
33	.25	.00	.17	.13	-.11	-.18	.19
34	-.03	.47	.02	.05	-.09	.33	.18
35	.64	-.10	-.07	-.25	.14	.27	.04
36	.30	.53	.01	.06	.12	.05	-.09
37	-.59	-.08	-.22	.16	-.13	.22	.06
38	.05	.36	.18	-.01	-.08	-.19	.23
39	-.39	.17	.41	.03	.09	.04	.31
40	.69	.19	.06	-.01	.09	.04	-.00
41	-.04	.38	.23	.12	-.08	.19	.05

42	.24	-.01	-.16	-.15	.33	.16	**-.49**
43	.29	0.13	.05	**-.41**	.24	-.04	.03
44	**-.54**	.07	.25	-.09	.09	.03	.25
45	-.19	.02	-.15	.20	.25	-.14	**.55**
46	-.32	.13	**.51**	.18	.17	-.07	-.01
47	**.42**	.39	.16	.14	.28	.19	-.21
48	.09	-.37	-.14	-.06	**-.46**	.19	.09
49	.34	-.27	-.28	-.17	.12	.01	.04
50	.22	.07	.08	.08	**-.57**	.03	.11
51	**-.78**	.05	.16	.03	-.03	.09	.19
52	.05	-.02	-.14	-.04	.16	.09	-.37
53	-.24	.16	.30	.31	.08	-.01	.13
54	**.51**	-.03	-.09	-.04	-.22	.19	.29
55	-.25	-.07	**-.49**	.25	.16	.29	.20
56	.06	.25	0.02	-.33	**.42**	-.09	.18
57	-.07	**.47**	-.04	-.02	.04	-.01	.15
58	-.49	-.05	**.49**	-.15	.07	.13	-.05
59	-.16	**.61**	-.14	.06	.15	.06	.06
60	-.06	.12	.15	.06	-.09	**.59**	.01
61	**.69**	.06	-.14	-.13	-.13	.06	.12
62	.05	.01	.05	**.45**	.28	.26	.02
63	.21	.07	.03	.03	.36	-.01	.26

Appendix B.2

Factor Analysis of Staff Data

Orthogonal Solution with Varimax Rotation

Item No.	Factor I	Factor II	Factor III	Factor IV	Factor V	Factor VI	Factor VIII
1	**.43**	.02	.01	.06	.23	.16	.24
2	.16	-.05	**.45**	.01	.08	-.14	-.02
3	-.29	.04	-.34	-.02	.06	-.16	.25
4	-.19	-.01	**.47**	-.08	.16	-.07	-.06
5	.17	.13	-.37	-.09	-.06	.17	-.09
6	-.01	.05	.13	-.40	-.21	.01	-.24
7	.05	.07	**-.49**	.26	.02	.30	.09
8	.38	.04	-.23	.07	.32	-.17	.08
9	-.16	-.05	**.56**	-.26	.23	-.04	.22
10	-.12	-.08	-.01	-.06	-.09	-.06	**.63**
11	-.19	-.18	.20	.21	.29	.07	**.42**
12	.09	.14	**.46**	.25	-.34	.02	.18
13	.15	.03	.24	.24	.36	.34	-.06
14	-.05	.11	.00	.09	**-.44**	.04	.12
15	.15	**.46**	-.21	.21	.04	.26	.07
16	-.37	-.27	.35	-.17	.37	-.03	-.13
17	.17	-.39	.09	.17	.14	.35	-.04
18	.03	-.03	.11	-.38	-.05	.01	.10
19	-.01	.13	-.04	.28	-.07	**.49**	.23
20	-.03	**.43**	.17	.05	-.01	.00	-.17
21	.19	.24	-.28	-.03	.18	**.48**	.22
22	.16	.04	**.40**	.05	.03	.21	-.03
23	-.03	.04	.25	**-.61**	.01	-.13	.19
24	.22	.13	.21	.28	.35	.15	.19
25	-.16	-.12	.13	.19	**.59**	.32	.16
26	.01	-.24	-.11	.21	**-.55**	-.07	.15
27	-.03	-.45	**.47**	-.09	.05	-.06	-.27
28	-.02	.17	-.09	.06	-.08	**.52**	-.02
29	.18	-.06	-.30	-.01	-.05	.23	**.51**
30	-.03	.16	**.47**	-.31	.27	.18	.04
31	.01	.18	.20	.09	.04	.36	-.04
32	-.03	.12	.26	-.06	.07	.33	.36
33	.39	-.30	-.08	.11	-.24	.33	.15
34	**.60**	-.11	.05	-.08	-.02	.16	-.16
35	-.02	**.44**	-.09	.24	-.14	-.17	.17
36	.19	-.04	.04	-.13	-.29	.22	.03
37	-.14	-.49	.34	-.00	-.11	-.04	-.05
38	.15	-.15	-.04	.02	.04	**.53**	.01
39	-.07	-.02	-.12	-.17	.04	**.49**	-.05
40	.28	.03	**.57**	**.45**	-.03	.27	-.06
41	**.43**	-.16	.38	.09	-.02	.15	.04

42	.25	**.52**	.04	.18	-.01	.16	-.11
43	.24	**.62**	-.13	.05	-.03	-.01	.14
44	-.31	-.17	.12	**-.43**	.24	-.08	-.05
45	.15	-.29	.25	**.46**	-.08	.03	.19
46	.05	.11	.26	-.24	**.46**	.07	.05
47	.14	.05	.12	**.49**	-.11	.09	.05
48	.11	-.09	-.00	**-.48**	-.03	.13	-.17
49	-.02	.05	.07	.18	-.04	.02	**.56**
50	.24	.16	.06	-.25	-.38	.07	.29
51	**-.49**	-.16	.08	-.15	.05	.08	-.00
52	.18	.05	-.09	-.09	-.05	-.04	**.59**
53	-.35	.06	.07	-.01	.29	-.03	-.00
54	-.05	**.44**	-.13	.03	-.47	.34	.04
55	-.06	**.49**	.04	-.32	.03	-.06	.05
56	-.17	**.50**	.09	-.02	.03	.17	-.05
57	**.57**	.08	.01	.05	.02	.06	.00
58	-.38	-.26	**.41**	-.24	.19	.01	-.09
59	.35	.16	.09	.07	.37	.01	.35
60	-.27	-.14	.11	-.14	.35	.16	.16
61	.35	.18	.05	**.51**	-.29	-.00	-.01
62	**.47**	-.38	.09	.04	-.01	-.16	.08
63	.38	.18	-.11	.06	.35	-.30	.25

Appendix B.3
Item Composition of Factors Extracted
From Resident Data

Factor 1 - Organization

Q4 Residents must be careful of what they say?
Q19 Residents look messy?
Q26 Things always seem to be changing around here?
Q28 Place seems crowded?
Q35 Sometimes noisy around here?
Q37 Always peaceful and quiet here?
Q40 Lot of confusion at times?
Q44 Residents get impatient with each other?
Q47 Place is well organized?
Q51 Residents complain a lot?
Q58 Residents criticize each other?
Q61 People always changing minds?

Factor 2 - Cohesion

Q6 Staff are strict regarding rules and regulations?
Q17 Residents taught to deal with practical problems?
Q36 Requests by residents taken care of right away?
Q57 Discussions are very interesting?
Q59 Some of residents' activities really challenging?

Factor 3 - Self-Exploration

Q11 Personal problems openly talked about?
Q16 Residents criticize and make fun of this place?
Q25 Residents talk about fears?
Q32 Hard to tell how residents feel?
Q39 Residents talk about past dreams and ambitions?
Q46 Residents talk about illness and death?
Q55 Residents asked to leave if they break a rule?
Q58 Residents criticize each other a lot?

Factor 4 - Resident Influence

Q12 Activities for residents carefully planned?
Q13 New and different ideas are tried?
Q14 Ever cold and drafty here?
Q22 Lot of social activities here?
Q24 New skills taught here?
Q43 Staff criticize residents over minor things?
Q62 Residents can change things if they try?

Factor 5 - Physical Comfort

Q9 Residents openly express anger?
Q21 Residents have privacy when wanted?
Q48 Rules and regulations strictly enforced?
Q50 Residents keep to themselves?
Q56 Lighting very good?

Factor 6 - Conflict

Q7 Furniture comfortable and homey?
Q18 Residents hide feelings from one another?
Q20 If two residents fight they get in trouble?
Q23 Residents keep disagreements to self?
Q27 Staff allow residents to break minor rules?
Q60 Residents keep personal problems to themselves?

Factor 7 - Independence

Q3 Residents depend on staff to set up activities?
Q10 Residents wait for staff to suggest ideas and activities?
Q14 Ever cold and drafty here?
Q29 Lot of residents just seem to be passing time?
Q42 Ever smell bad here?
Q45 Residents take charge of activities?

Appendix B.4
Item Composition of Factors Extracted
From Staff Data

	Factor 1 - Resident Influence
Q1	Residents get lots of individual attention?
Q34	Suggestions made by residents acted upon?
Q41	Residents have say in making rules?
Q51	Do residents complain a lot?
Q57	Are discussions interesting?
Q62	Residents can change things if they try?
	Factor 2 - Cohesion
Q15	Staff talk down to residents?
Q35	Sometimes noisy here?
Q37	Always peaceful and quiet here?
Q42	Ever smell bad here?
Q43	Staff criticize residents over minor things?
Q54	Things sometimes unclear?
Q55	Residents asked to leave if they break a rule?
Q56	Lighting very good?
	Factor 3 - Conflict
Q2	Residents ever start arguments?
Q4	Residents are careful about what they say to each other?
Q7	Furniture comfortable and homey?
Q9	Is it unusual for residents to openly express anger?
Q12	Are activities for residents carefully planned?
Q22	Lot of social activities?
Q27	Do staff allow residents to break minor rules?
Q30	Residents complain about each other?
Q58	Residents criticize each other a lot?
	Factor 4 - Organization
Q23	Residents keep disagreements to self?
Q40	Lot of confusion at times?
Q44	Residents get impatient with each other?
Q45	Residents take change of activities?
Q47	Place well organized?
Q48	Rules and regulations strictly enforced?
Q61	People always changing minds?
	Factor 5 - Self-Exploration
Q14	Ever cold and drafty here?
Q25	Residents talk a lot about fears?
Q26	Things always seem to be changing here?
Q46	Residents talk about illness and death?
Q54	Things sometimes unclear?

Factor 6 - Physical Comfort

Q19 Residents look messy?
Q21 Residents have privacy when they want?
Q28 Place seems crowded?
Q38 Residents encouraged to make own decisions?
Q39 Residents talk about past dreams and ambitions?

Factor 7 - Independence

Q10 Residents wait for staff to suggest an idea or activity?
Q11 Personal problems openly talked about?
Q29 Lot of residents just seem to be passing time?
Q49 Every hot and stuffy here?
Q52 Residents care more about past than future?

Appendix C: CROSS TABULATION RESULTS

C.1 Cohesion Subscale

C.2 Conflict Subscale

C.3 Independence Subscale

C.4 Self-Exploration Subscale

C.5 Organization

C.6 Resident Influence

C.7 Physical Comfort

Appendix C.1 - Cohesion Subscale

	ITEM	RESIDENT % SCORE Yes	No	N/A	STAFF % SCORE Yes	No	N/A
Q1	Do resident get a lot individual attention?	75.0	25.0	-	73.0	26.2	-
Q8	Do staff members spend a lot of time with residents?	47.1	52.9	-	75.0	25.0	-
Q15	Do staff members sometimes talk down to residents?	30.9	69.1	-	59.5	40.5	-
Q22	Are there a lot of social activities?	83.8	16.2	-	78.8	17.9	3.6
Q29	Do a lot of residents just seem to be passing the time here?	70.6	29.4	-	81.0	19.0	-
Q36	Are requests made by residents usually taken care of right away?	76.5	23.5	-	82.1	17.9	-
Q43	Do staff members sometimes criticize residents over minor things?	23.5	75.0	-	57.1	42.9	-
Q50	Do residents tend to keep to themselves here?	69.1	30.9	-	63.1	36.9	-
Q57	Are discussions very interesting?	63.2	30.9	5.9	88.1	11.9	-

Appendix C.2 - Conflict Subscale

	ITEM	RESIDENT % SCORE			STAFF % SCORE		
		Yes	No	N/A	Yes	No	N/A
Q2	Do residents ever start arguments?	47.1	52.9	-	89.3	10.7	-
Q9	Is it unusual for residents to openly express their anger?	35.3	64.7	-	25.0	75.0	-
Q16	Do residents sometimes criticize and make fun of this place?	38.2	61.8	-	69.0	31.0	-
Q23	Do residents usually keep their disagreements to themselves?	72.1	27.9	-	28.6	70.2	1.2
Q30	Is it unusual for residents to complain about each other?	41.2	58.8	-	15.5	84.5	-
Q37	Is it always peaceful and quiet here?	75.0	25.0	-	23.8	76.2	-
Q44	Do residents often get impatient with each other?	42.6	57.4	-	83.3	16.7	-
Q51	Do residents complain a lot?	36.8	63.2	-	65.5	34.5	-
Q58	Do residents criticize each other a lot?	32.4	67.6	-	47.6	51.2	1.2

Appendix C.3 - Independence Subscale

	ITEM	RESIDENT % SCORE Yes	No	N/A	STAFF % SCORE Yes	No	N/A
Q3	Do residents usually depend on the staff to set up activities for them?	80.9	17.6	1.5	88.1	9.5	2.4
Q10	Do residents usually wait for staff to suggest an idea/ activity?	73.5	23.5	2.9	81.0	15.5	3.6
Q17	Are residents taught how to deal with practical problems?	61.8	35.3	2.9	70.2	29.8	-
Q24	Are many new skills taught here?	54.4	44.1	1.5	51.2	42.9	6.0
Q31	Are residents learning to do more things on their own?	77.9	20.6	1.5	65.5	33.3	-
Q38	Are the residents strongly encouraged to make their own decisions?	82.4	17.6	-	82.1	17.9	-
Q45	Do residents sometimes take charge of activities?	48.5	17.6	-	82.1	17.9	-
Q52	Do residents care more about the past than the future?	48.5	48.5	2.9	73.8	23.8	2.4
Q59	Are some of the residents' activities really challenging?	60.3	33.3	5.9	52.4	42.9	4.8

Appendix C.4 - Self-Exploration Subscale

	ITEM	RESIDENT % SCORE Yes	No	N/A	STAFF % SCORE Yes	No	N/A
Q4	Are residents careful about what they say to each other?	66.2	33.8	-	36.9	60.7	2.4
Q11	Are personal problems openly talked about?	44.1	55.9	-	45.2	54.8	-
Q18	Do residents tend to hide their feelings from one another?	44.1	52.9	2.9	57.1	42.9	-
Q25	Do residents talk a lot about their fears?	13.2	86.8	-	45.2	54.8	-
Q32	Is it hard to tell how the residents are feeling?	54.4	45.6	-	28.6	71.4	-
Q39	Do residents talk a lot about their past dreams and ambitions?	39.7	60.3	-	69.0	31.0	-
Q46	Do residents ever talk about illness and death?	27.9	72.1	-	82.1	17.9	-
Q53	Do residents talk about their money problems?	14.7	85.3	-	29.8	70.2	-
Q60	Do residents keep their personal problems to themselves?	82.4	17.6	-	56.0	44.0	-

Appendix C.5 - Organization Subscale

	ITEM	RESIDENT % SCORE Yes	No	N/A	STAFF % SCORE Yes	No	N/A
Q5	Do residents always know when the staff will be around?	47.1	52.9	-	63.1	36.9	-
Q12	Are activities for residents carefully planned?	82.4	14.7	2.9	85.7	10.7	3.6
Q19	Do some residents look messy?	54.4	44.1	1.5	79.8	20.2	-
Q20	Do things always seem to be changing around here?	44.1	55.9	-	72.6	27.4	-
Q33	Do residents know what will happen to them if they break a rule?	36.8	63.2	-	47.6	50.0	2.4
Q40	Is there a lot of confusion here at times?	38.2	61.8	-	65.5	34.5	-
Q47	Is this place very well organized?	85.3	14.7	-	71.4	28.6	-
Q54	Are things sometimes unclear around here?	45.6	54.4	-	71.4	28.6	-
Q61	Are people always changing their minds around here?	36.8	60.3	2.9	61.9	38.1	-

Appendix C.6 - Resident Influence Subscale

	ITEM	RESIDENT % SCORE Yes	No	N/A	STAFF % SCORE Yes	No	N/A
Q6	Is the staff strict about rules and regulations?	76.6	29.4	-	61.9	36.9	1.2
Q13	Are new and different ideas often tried out?	73.5	25.0	1.5	73.8	26.2	-
Q20	If two residents fight with each other will they get in trouble?	67.6	30.9	1.5	44.0	56.0	-
Q27	Do staff allow the residents to break minor rules?	35.3	61.8	2.9	75.0	25.0	-
Q39	Are suggestions made by the residents acted upon?	54.4	41.2	4.2	79.8	20.2	-
Q41	Do residents have any say in making the rules?	26.5	73.5	-	57.1	40.5	2.4
Q48	Are the rules and regulations rather strictly enforced?	61.8	38.2	-	47.6	51.2	1.2
Q55	Would a resident ever be asked to leave if he/she broke a rule?	42.6	55.9	1.5	14.3	81.0	4.8
Q62	Can residents change things here if they really try?	52.9	45.6	1.5	71.4	27.4	1.2

Appendix C.7 - Physical Comfort Subscale

	ITEM	RESIDENT % SCORE			STAFF % SCORE		
		Yes	No	N/A	Yes	No	N/A
Q7	Is the furniture here comfortable and homey?	92.6	7.4	-	46.4	53.6	-
Q14	Is it ever cold and drafty here?	26.5	73.5	-	23.8	76.2	-
Q21	Can residents have privacy whenever they want?	82.4	17.6	-	40.5	59.5	-
Q28	Does this place seem crowded?	27.9	72.1	-	38.1	61.9	-
Q35	Is it sometimes very noisy here?	36.8	63.2	-	67.9	32.1	-
Q42	Does it ever smell bad here?	25.0	73.5	1.5	57.1	42.9	-
Q49	Is it ever hot and stuffy here?	57.4	42.6	-	95.2	4.8	-
Q56	Is the lighting very good here?	80.9	14.7	4.4	83.3	16.7	-
Q63	Do the colors and decorations make this a warm and cheerful place?	86.8	8.8	4.4	63.1	36.9	-

B46040